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NEW METHOD  
OF TREATING  
BURNS & SC  
AND CERTAIN  
Cutaneous Eruption

BY MICH<sup>L</sup>. WARD, M.D.

Late Surgeon to Manchester Infirmary, Dispensary, L  
Recovery, and Senior Physician to the B

MANCHESTER  
Printed by Henry Smith, St. A  
PUBLISHED BY LONGMAN, REES,  
1820.  
8d. by all Booksellers.

A

# NEW METHOD

OF TREATING

# BURNS & SCALDS

AND CERTAIN

## Cutaneous Eruptions.



BY MICHL. WARD, M.D. S.R.C.S.L.

Late Surgeon to the Manchester Infirmary, Dispensary, Lunatic Hospital, and House of Recovery, and Senior Physician to the Buxton Bath Charity.

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1829.

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A  
NEW METHOD  
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TREATING  
BURNS AND SCALDS.

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PART I.

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BY  
MICHAEL WARD, M.D. S.R.C.C.L.

MANCHESTER:

PRINTED BY ROBERT ROBINSON, ST. ANN'S-PLACE.

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1828.

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“ SI QUID NOVISTI RECTIUS ISTIS CANDIDUS  
IMPERTI, SI NON IIS UTERE MECUM.”

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## TO THE EDITOR OF THE LANCET.

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Being anxious to publish an account of a new method of treating *Burns and Scalds* as *extensively and with as little delay as possible*, for which purposes your plan of publishing weekly seems well adapted, I beg leave to transmit it to you, and to request it may appear in your next number if convenient.

The circumstances which led to its adoption, together with a detailed account of the cases in which it has been practised, *with the effect in every instance of immediately* (I had almost said *instantly*) *removing the intolerable pain and smarting which are invariably experienced* by this miserable class of *patients*, will be sent with your permission to be inserted in a future number. In the mean time it might probably be the means of relieving the sufferings of many who are thus afflicted, considering the frequent occurrence of cases of this description, (*which of all others, perhaps, are most calculated to excite horror and commiseration,*) if the Editors of the different Medical Journals, and other periodical publications, would insert a copy of this paper in their respective Works and Papers, the sooner the better.

The preparation to be used, and the method of using it, I shall now proceed to describe; and it is peculiarly fortunate where the quantity required in many of the worst and most distressing cases will necessarily be considerable, *and where every moment is so precious, that it possesses the properties of being cheap, always at hand, and as easily applied by any person who may happen to be present at the time of the accident, as by the most skilful Surgeon;* circumstances which are of the highest importance, on account of the rapid progress which the inflammation thus excited constantly makes.—But to proceed.

We will suppose the clothes of some person, *no matter how old or young*, to have taken fire, and to have continued burning sometime before the fire could be extinguished; or secondly, that one or more human beings have escaped or been rescued from a House, a Factory, or other Building in flames,\* but not until they had sustained considerable, perhaps irreparable injury from the fire; or thirdly, that one or more persons have been exposed to the action of fire by an explosion of gunpowder, inflammable air in a Coal Mine, or any other cause; or lastly, that some unfortunate individual has fallen into a vessel of boiling liquor in a Brewhouse or Distillery; accidents which are well known to be as frequent as they are dreadful. In all these cases, (and of course in all those of the same nature, *but of less extent and magnitude*,) the *first* object will be, (after having laid the patient upon a bed or sofa,) *without a moments loss of time to take off the clothes AND APPLY BREAD FLOUR, BY MEANS OF A COMMON KITCHEN DREDGER, PLENTIFULLY, AND AS EXPEDITIOUSLY AS POSSIBLE, TO THE WHOLE OF THE BURNED OR SCALDED SURFACE, and this being properly and sufficiently done, carefully applying clean dry linen cloths immediately over the flour, and such bed clothes or other coverings as may be required to keep the patient comfortably warm, but not too hot.* AND IN ALL CASES OF EITHER BURNS OR SCALDS STUDIOUSLY AVOIDING THE APPLICATION OF LIQUIDS OF EVERY KIND WHATEVER, INCLUDING OIL; AND LINIMENTS, OINTMENTS AND SALVES, CONTAINING OILS; ALL OF WHICH ARE EXTREMELY PERNICIOUS, AND IN EFFECT, ADD FUEL TO THE FIRE: AND MUST THEREFORE—I REPEAT, BE CAREFULLY AVOIDED, AND TOTALLY DISCARDED FROM PRACTICE IN EVERY INSTANCE OF THIS NATURE.

These are the directions to be observed at the first, dredging or sprinkling with flour, so far as regards the *external treatment* of the case: and supposing it to produce the effect of *instantly removing the pain*, which has hitherto been *the uniform result of its application*, the

next (or second) object will be, if the patient feel inclined to sleep, and has no immediate occasion for food, for him to endeavour to do so, either until the pain return; or an inclination for nourishment be expresssed; that emergency which occurs first is of course to be first attended to. If the former, (i. e. the return of pain) we must commence by carefully removing the linen coverings or bandages *from those parts where the pain is the most considerable (without attempting to remove any of the Flour previously applied except such portions of it if any as do not adhere to the subjacent parts, which will be easily done if a sufficient quantity of Flour which can scarcely be too copious, were applied in the first instance,)* and then proceed as before to apply FLOUR equally and copiously to the painful parts, by means of the *Dredger*, which is the easiest and best method of effecting it, if the holes in the lid be sufficiently numerous and large, to allow the flour to pass with the requisite facility. It would also be a good general rule, particularly at the first and several of the succeeding dredgings or sprinklings, to continue the process for a certain time, (longer or shorter according to the extnt of the violence, and the degree of pain complained of,) *after the parts become easy, (with a view to keep them in that state as long as possible :)* and steadily to persevere in it either until the last mentioned object be attained, or the parts affected shall have received a coating or covering of this invaluable article of from a quarter, to nearly half an inch in thickness; and then apply the bandages, &c. as before; and secondly, not to disturb those places which still continue easy in consequence of having undergone one or more sprinklings or dustings, *until the return of pain or uneasiness shall indiate the necessity of repeating it.* And in this manner we must proceed the first two or threo weeks, or until that period shall arrive when it will be necessary to make some addition to the Flour. The plan which I have adopted and have found to answer is this; to begin by adding one part of the Calamina Preparata to three of Flour, (*intimately united,*) gradually increasing the proportion

of the Calamine, according to the effect produced, until equal parts, and at length towards the close of the healing process, *the prepared Calamine alone*, was the only preparation employed, excepting a little of the Ceratum Calaminæ (*brown cerat*, with which an additional quantity of the prepared Calamine to that directed in the Pharmacopia had been mixed,) spread very thin upon linen and laid over the powder, to prevent the relaxing properties of the Oil from retarding the healing of the ulcers, which are usually formed in *bad* cases of this kind, and sometimes are very tedious and difficult to heal, though less so, I believe, under this management than any other.

Having now described the external or local treatment with a minuteness which may appear to some unnecessary, unless the distress and anguish to which this unfortunate class of patients are exposed, and the novelty, utility, and importance, of the practice inculcated, (*which is partly intended for general and popular use*, in order to avoid the delay which is so often fatal in these cases) prove a justification, it will be proper to make a few observations on *the internal treatment with regard to diet, and medicines, should any of the latter be required*, which I trust will be found to be equally consistent with sound theory and ratiocination, as the former have been proved to be simple, yet beneficial and salutary in practice. At present, however, I am compelled to defer my remarks upon these and other topics connected with the subject, to a future (yet I hope an early) number of your Journal; only observing, that with regard to diet, every reasonable indulgence should be granted consistent with propriety, to the wishes of the patient, *so long as the tongue be clean, and the natural and vital functions are properly performed*: avoiding, of course, the heavier and stronger kinds of animal food, pie crust, fermented and spirituous liquors, spiccs, &c. *for some time at first*, and substituting milk diet and puddings, with broth, soup, &c.; and occasionally a little chicken or fish at dinner. With regard to medicines, they should, I think, generally speaking, be given very sparingly, and with great

caution; particularly anodynes and opiates, which can seldom, I conceive, be useful, even in severe cases, supposing them to be doing well under the local treatment here recommended. If sleep cannot otherwise be obtained especially if the case be hopeless, opiates, (Dover's Powder, Pulvis Ipecac : Comp. would, perhaps, in some cases, be preferable to the Tinctura Opü,) given in proper doses every four or six hours, rather than in one large dose at bed time, until sleep be procured, might probably have a good effect. Or if the skin of one or both arms, or legs, or thighs, or of a sufficiently large surface of some other convenient part of the body should have escaped being injured, the use of the *Opiate Friction*, every two, three, or four hours, might probably be efficacious in procuring sleep, either alone, or in conjunction with the usual means.\*

As aperients, those that operate gently are the best, such as a little castor oil; or a tea-spoonfull or two, of the Electuary of Senna, with a little Rhubarb or Jalap and Supertartrate of Potash; with either of which a draught of the Imperial Drink may be taken occasionally to prevent costiveness.

### REMARKS.

It will now be proper to say something in vindication of the strong terms which have been employed in recommending *the free and plentiful use of flour as being infinitely preferable to all others,\* as a local application in cases of burns and scalds, from whatever cause, or in whatever way arising.* Indeed, supposing its effects to be similar in the hands of others to those which accompanied its use in the three cases (one burn and two scalds) in which it has been employed by myself, (and I see no reason to the contrary) they will be of the most pleasing and gratifying description imaginable; a just idea of which will be best conveyed in the words of the patients themselves; (accompanied by cor-

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\* See "Facts establishing the Efficacy of the Opiate Friction in Spasmodic and Febrile Diseases. Also Outlines of a Plan to investigate the Nature, Causes, and Method of Cure of Hydrophobia and Tetanus. By Michael Ward, M. D. Member of the Royal College of Surgeons, in London, late Surgeon to the Manchester Infirmary, Dispensary, &c. &c."—Sold by Hill and Burgess, Windmill-street, London.

responding actions, which must have been seen to be duly appreciated.)

“OH! HOW COOL AND COMFORTABLE IT IS,” “I HAVE NO PAIN NOW,” “IT IS QUITE GONE;” were the immediate and spontaneous expressions of my first patient, (whose arm was scalded from above the elbow to the fingers ends,) which were often repeated in a loud and rapturous tone of voice and manner, the instant (almost before) the flour could be said to be fairly in contact with the parts affected. Nor did the pain return till several hours had elapsed, and was then only slight, and was speedily removed by repeating the use of the FLOUR DREDGER (first removing the linen roller); which method of treatment was continued, at first three times, and afterwards, twice a day for three days, when scarcely any appearance of the accident remained, and the patient returned to her usual business,

In this manner was an accident, which if it had been treated in the usual way, would have been attended with great pain and inconvenience for several weeks, *completely cured in three days.*

In the other two cases, the one a burn, the other a scald; both of which happened to Mrs. D—, the effects were equally favourable and decisive in demonstrating the happy consequences resulting from the practice which it is the object of this communication to inculcate. It is also remarkable that the expressions of Mrs. D— were exactly similar to those already quoted as having been used by Hannah Pearson, (who was the subject of the first case) with this addition, frequently repeated at the first and subsequent sprinklings or dustings, viz. that the powder, (she did not know it was flour) which was applied to her foot and instep which were severely scalded, (more so from the difficulty experienced in removing the shoe and stocking) and afterwards to her thumb, which was burnt, WAS WORTH A GUINEA A GRAIN; so instantaneous were its effects in removing the pain.\*

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\* Another curious coincidence was, that the three cases which afforded me so many opportunities of submitting this method of treating BURNS AND

Nor is there any thing incredible or mysterious in this, if we reflect a moment upon the modus operandi, which is, I conceive, equally simple and intelligible, viz. that by its instantaneous operation as an absorbent powder, *in allaying the irritation, and partly by its coldness, diminishing the temperature of the inflamed parts, it immediately arrests the rapid progress of the inflammation, and forms a fit medium or covering to prevent the access of the atmospherie air to a part of the body, whieh is at all times peculiarly susceptible of its action, (especially upon a large and extended surface of it) but which is now rendered a thousand times more susceptible than before, by causes which are too obvious to mention,* Hence arises that distressing tremor (or rather rigor) which so often occurs even in slight cases of this kind, but infinitely more so where the injury sustained is severe and extensive. From hence also, I infer, that even in cases where all hope, or, at least, expectation of the patients recovery must be futile; the speedy, free, and plentiful application of FLOUR to the burnt or scalded parts, will, I trust, indeed I have no doubt, *smooth the passage of these unfortunate and miserable objects to the grave.*

Now, if this representation be just, and *I pledge myself to prove its accuracy, I should be unpardonable were I to withhold the facts, whieh have occurred to me, from the public. Nay more, I should be inexusable, if I did not by every proper and justifiable method in my power, endeavour to spread the knowledge of them as speedily as possible, to the inhabitants generally, and the faculty in particular, (whose attendance on all occasions of this kind—the experienced and judicious part of them I mean—will be desirable, and on many indispensable) NOT MERELY IN*

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SCALDS to the test, took place in two different families, with whom I resided at the times when the accidents happened, otherwise, (though I wish not to enhance the benefits which may result from the discovery, if so it may be called) having declined the practice of Surgery, *except in consultations, no such opportunity might, in all probability, have occurred to me.*

I have also to observe, that though I have declined the practical part of Surgery, I shall not withhold my assistance *in the day time if called upon, until the plan recommended shall become generally known and properly understood.*

GREAT BRITAIN AND IRELAND, BUT TO THOSE RESIDING IN EVERY PART OF THE GLOBE.

Nor will this be deemed enthusiasm by any humane person, who has heard in a single instance, as *I have in many, the groans, and witnessed the misery and anguish which are endured in bad cases of the kind here treated of*; on the contrary, I am greatly mistaken if he do not coincide with me in the opinion, that whatever has *a tendency even to alleviate much more to remove the sufferings of this pitiable class of patients*; (no matter by what means; indeed the more simple and easily attainable the better,) is justly entitled to the attention, not only of the profession, but of the Community at large. How far the scheme now proposed can be considered as coming under this denomination, *experience must decide*; and to this I think I may with some degree of confidence appeal. At all events should its merit be such as to stand this test, and I shall be greatly surprised if it do not, **THE REMEDY BEING CHEAP, ALWAYS AT HAND, AND AS EASILY APPLIED BY ANY PERSON WHO MAY HAPPEN TO BE PRESENT AT THE TIME OF THE ACCIDENT AS BY THE MOST SKILFUL SURGEON, will have a corresponding and powerful influence in favour of its adoption.**

I shall conclude this hasty sketch by observing that on no occasion can the maxim, "*non progredi est regredi*," be more appropriate. Indeed the success would be greatly promoted by the influence which such a sentiment is calculated to produce IN HASTENING THE PROMPT AND EFFECTUAL APPLICATION OF THE REMEDY AS SOON AS POSSIBLE AFTER THE ACCIDENT.

I have the honour to be,

Your's obediently,

MICHAEL WARD, M. D. S. R. C. C. L. &c. &c.

Manchester, April, 1828.

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(TO BE CONTINUED.)

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Robert Robinson, Printer, St. Ann's-Place.

# A NEW METHOD OR TREATING BURNS & SCALDS.

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## PART II.

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Having been formerly one of the Surgeons of the Manchester Infirmary, Dispensary, &c. (from September, 1790 to January 1805,) it was frequently my lot to meet with cases of extensive burns and scalds, which when severe, I had generally the mortification to see prove fatal, without being able with very few exceptions, even to mitigate, much less remove, the excruciating torments with which these melancholy accidents are attended.— The method of treatment then in use was to apply liquor calcis & oleum lini, p. æ. to the burnt or scalded parts for some time at first; followed by a variety of ointments or salves, either with or without the carbonate of lead or prepared calamine, according to the views of the practitioner. How extremely inadequate to fulfil the indications of rational practice these must have been, it were needless to shew.

Finding my efforts to afford relief in cases so pitiable and of such frequent occurrence were almost always defeated, the subject often occupied my mind, in order to discover an application of some kind or other, calculated if not to cure, (which in the worst cases it would be unreasonable to expect,) at all events to relieve the pain, by allaying the irritation, and thus if possible, arrest the progress of the inflammation and consequent vesication and ulceration which are the invariable attendants of severe burns and scalds, and which might also have the advantage of being easily procured, and applied without loss of time, (circumstances which are of the utmost importance, on account of the rapid progress which the inflammation

thus excited constantly makes ;), by any person of mature age who might happen to be present at the time of the accident. These appeared to me great and necessary desiderata ; but little did I imagine that any external application possessing most, much less all these good qualities, could be found to reside in one simple substance, and that always at hand, cheap, (no trifling consideration where the quantity required in bad cases must of necessity be large,) admitting also of being applied with the greatest practicable celerity, as well as facility.—Yet such I am happy to say has been the result. See Part 1, in “THE LANCET”, of May 10, 1828 ; to which will now be added, (in accordance with the pledge there given,) a brief narrative of the cases.

The first happened about nine months ago, when my attention was aroused by the screams of some one who seemed to be in pain. On proceeding to the kitchen I found the mistress busily employed in rubbing the maid’s arm, (which was scalded from the elbow to the fingers ends), with *goose grease* which she intended to cover with *a poultice of scraped potatoes*.\* My first object was to remove the goose grease, which was effected by applying soft linen cloths, in such a way as by gentle pressure, to absorb it from the arm and hand ; the patient shivering as if she had been in the cold stage of an intermittent. I then procured a flour dredger, (which happened fortunately to be full,) and sprinkled the scalded parts as completely and expeditiously as I could, and had scarcely begun this operation, when the cries of the patient ceased, her countenance and actions which were before expressive of agony and torture, assumed a contrary aspect, and like her expressions, conveyed no ideas but those of gratitude and pleasure. “ Oh how cool and comfortable it is,” “ I have no pain now,” “ it is quite gone,”—were her own

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\* Not only goose grease and scraped potatoes, but even vinegar, and cloths dipped in cold water, extraordinary as it must appear, have their advocates ; than which nothing can be imagined more irrational and absurd. It is to be hoped, however, that the profession will at length be rescued from the charge of empiricism on the one hand, or inadequacy in the means employed to fulfil the ends proposed, on the other.

words, which were frequently repeated, (accompanied by corresponding actions which must have been seen to be duly appreciated,) the instant (almost before) the flour could be said to be fairly in contact with the parts affected.

(What might be the ideas and sensations of COLUMBUS when his eyes first caught a glimpse of AMERICA, I shall not presume to say, but it is not possible, I humbly conceive, for them to have been more poignant, or of a more pleasing and gratifying description than mine, at that moment.)

Nor did the pain return till several hours had elapsed, and was then only slight, and was speedily removed by repeating the use of the flour dredger; which was continued at first three times, and afterwards twice a day, for three days, when scarcely any appearance of the accident remained, and the patient returned to her usual business.

### CASES 2 & 3.

The second and third cases in which I had recourse to flour as a remedy for burns and scalds, happened five or six months ago to the same individual. A brief sketch will suffice.

Mrs. —— scalded the top of her foot and instep. The effects extended the size of a hand, and were more severe from the difficulty experienced in removing the stocking; the most central part having sustained the greatest injury. With all speed flour was applied, and repeated at proper intervals, with the effect of immediately banishing all pain and uneasiness from the scalded parts, *which it had no sooner touched than she pronounced it "to be worth a guinea a grain."* Except in the centre of the scalded part, where an ulcer was formed, (which was treated as described in "The Lancet," p. 176,) very little appearance of the accident remained after the first few days. Before the ulcer was healed she had the misfortune to burn her hand by exposing it to the action of wax and oil of turpentine in a state of ignition. In this case also the application of flour produced immediate relief, and was the only remedy required, prepared calamine excepted.

The train of reasoning which led to the experiments appears to me as plain as the inferences to be drawn from the latter are unavoidable.

To attempt to prove that the methods of treatment commonly resorted to are quite inadequate to produce the desired effect, would, I conceive, be superfluous. They are in fact, and have long been a disgrace to the profession, and must at all events be superseded by others of a more rational description. If this be admitted, very little more I conceive need be added to what has been already said in favour of the mode of treatment now recommended. Indeed it is only recently that the idea of applying flour by means of the dredger occurred to me. Long ago, in reflecting upon the subject I had reasoned myself into the belief of its efficacy, accompanied by a determination to try the experiment on the first occasion that might offer.

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So far I had proceeded in Part 2, (which has been unavoidably delayed,) when I was agreeably surprised by a letter from Mr. Tatham, Surgeon, at Kendal, (a gentleman who was previously unknown to me,) of which the following is a copy. To me it appears to do equal credit to the head and heart of the writer, demonstrating as it does, his wish to diffuse generally, what he considers valuable information, upon a subject of great and general importance; arising from the opportunity he has had of putting to the test, "*with the happiest consequences,*" the plan of treatment recommended in "THE LANCET" of May 10, 1828, page 175, &c.

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The remaining observations which I intended to make, I will, with your leave, defer at present,—only adding, that the delay from the 19th of July when the letter is dated, to the 31st, was accidental.

Yours respectfully,

MICHAEL WARD, M.D.

Manchester, July 31, 1828.

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*"Kendal, July 19, 1828.*

"Sir,

"The following case being one in point relative to your plan of treating burns and scalds in a manner certainly somewhat novel, but likely in all probability to afford satisfaction to parties concerned, I have sent it to you by an eminent physician of your acquaintance,\* to dispose of in any way you choose.

On Friday morning, July 11th, I was hastily sent for to attend a fine boy, aged 5, who had just met with a most violent scald, from receiving upon his face and neck the contents of a small pan of boiling water, which had blistered the skin to a considerable degree. On entering the apartment where he was I had occasion to witness great distress on the part of the attendants, owing to the piercing cries of the sufferer, who complained of burning pain, and the uneasiness created by the application of cold cloths, which greatly irritated the tender parts by his perpetual restless condition and desire to be moved. Finding that the greatest difficulty would arise from his resistance to the application of the cloths, or any thing that would require frequent change, I determined to make trial of the plan of covering the affected parts with flour, as stated a short time ago in "The Lancet," therefore immediately requested to have the dredger brought up from the kitchen, that I might cover the whole of the scald with flour, which I did to the almost instantaneous relief of the sufferer, and the great gratification of his mother and relations, who seemed rather astonished with the simplicity of the remedy, and its happy effects, which soon enabled me to leave the house, after directing that the dredger should be copiously used whenever there was any exposure of the injured parts, and that a little of an anodyne composed of Laudanum and Tra. Hyosciami be given for the sake of ensuring ease and comfort, though there appeared no absolute necessity for such medicine. *At my next visit, a little before noon, every thing wore a comfortable aspect—the flour covering the face and neck,*

*the boy perfectly quiet, expressing himself as very easy whenever inquired of concerning his condition. In the evening there was nothing untoward of moment; a little swelling about the mouth and nares was to be noticed, but the whole system was wonderfully composed. I ordered barley water or tea for drink, and another dose of the anodyne for the purpose of shortening the night,—likewise that flour be put upon any part that might appear moist or uncovered.* At my visit next morning I had the gratification of finding the little patient *in every respect as well as could be wished, having passed a tolerably easy night, and able to answer questions very comfortably.* Pulse nearly natural,—tongue moist,—breathing free and quiet—swelling about the mouth &c. rather abated, though rendering the taking of any thing painful. *The inflammation which at my first visit threatened the most unfortunate consequences had been amazingly kept under,—in short, under existing circumstances nothing could proceed more favourably.* As the bowels had not been moved lately, I wished a dose of Ol. Ricini to be administered, and the diluents to be continued. *At night there existed the same composure as before, and freedom from fever or extension of inflammation.* THE FLOUR KEPT ALL ABOUT IT COOL, and had in many places formed a compact paste. Some diluents were taken in the course of the day, and as the Ol. Ricini had produced but a slight effect it was ordered to be repeated. *No anodyne to-night.* On Sunday I had the pleasure of still observing my patient go on satisfactorily—in a way, indeed, such as I had never seen before in similar cases where so much pain and distress had commonly rendered attendance truly unpleasant. *Here the suffering was for the most part trifling—little, nay, almost no reaction had taken place, nor was there what could be deemed one unfavourable symptom.* The Ol. Ricini answered better to-day, and owing to the difficulty of inducing him to take medicine, *I considered any thing further unnecessary, beyond a few drops of Tra Hyosciami now and then for the purpose of allaying any restlessness that might arise from the stiffness of his face, as well as for keeping*

his bowels regular. To relate any thing in detail further concerning this case would only be a useless expenditure of time—it will be sufficient to say that the boy is speedily recovering his wonted spirits and looks—his face and neck becoming free from the flour, which was allowed to come off in flakes, *leaving some parts underneath dry and free from exoriation, and others undergoing very slight suppuration so as to afford hopes of there being in the end but small if any disfigurement, notwithstanding the appalling nature of the accident at first.*

It would have been no easy matter in some houses to have kept the inmates satisfied with a method of cure apparently so simple and homely, but in this instance, the father and mother of the child being persons of intelligence, there was no difficulty of such a nature; to obviate which it may be needful occasionally to have the flour sent in a formal manner. Covering the whole with a cloth or cloths is recommended generally for the sake of keeping the air more perfectly excluded, which must be desirable, especially in winter, but in this case it could not be done owing to the repugnance of the child, *who would allow nothing but flour to be applied*; and it could not fail to strike one that this substance possessed a high power in conducting caloric, whether in powder, or after it had formed that amylaceous paste, which with moisture it did in many places; *for there always was an expression of comfortable coolness after its fresh use.*

It ever must afford satisfaction

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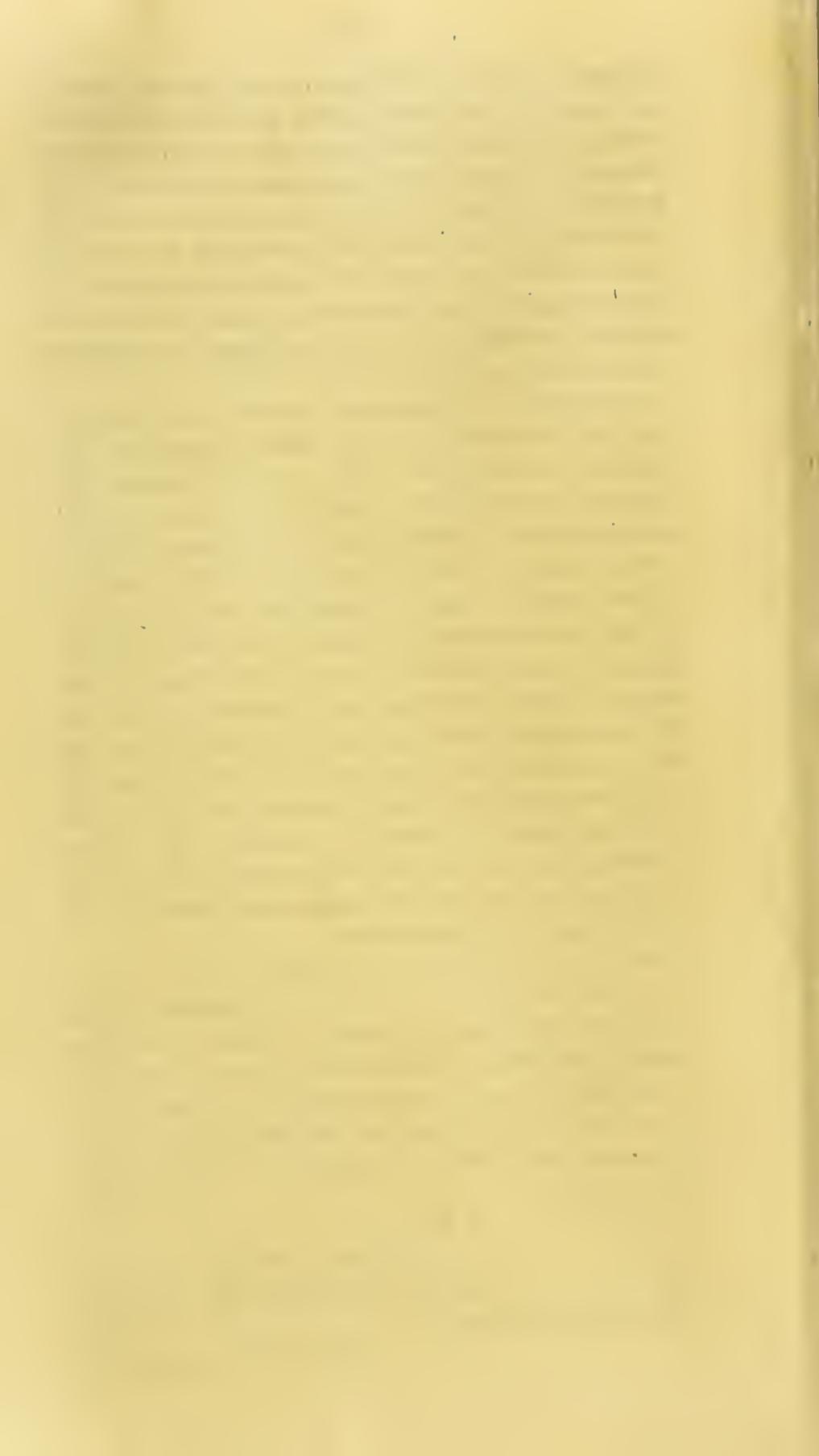
“conferre labanti  
Robur et afflictis solatia reddere membris,” &c.—but when a method in itself so simple, and yet so effectual, can be had recourse to for the purpose, it is but fair to express a sentiment of gratitude towards the person who has had the good fortune of making the discovery, and giving it publicity.

I am, Sir,

Yours respectfully,

EDWARD TATHAM,—Surgeon.”

“Dr. Ward, Manchester.”



# A NEW METHOD OF TREATING BURNS & SCALDS.

## PART III.

IT appears to be not only a professional but a moral duty, to lay before the public at an early period, improvements in the healing art, which are sufficiently well authenticated, and may be adopted by others without impropriety or danger, in similar cases. On this ground, I trust, the communication of the preceding and following facts and observations will be justified. To adopt the words of an eminent writer on *a different* occasion, “*If this was an experiment, in which the life, or limb, or health of the patient was in any degree endangered, or by which the person on whom it may be tried, could in any degree be injured, I should have withheld what I now publish until a greater length of time, and more experience had rendered it still more absolutely certain, and I should have thought myself vindicable in so doing, but as this is a remedy whose general effects are (now) well known, and which is at the same time so capable of direction and management, that it is impossible for any person who deserves to be trusted with medicine at all, to do any material harm with it, I thought it would be wrong and unjust to conceal what had occurred to me, lest I might thereby deprive the afflicted of an assistance which, I verily believe, is not to be obtained from any other quarter.*”\*

Nothing could be more complete and satisfactory than Mr. Tatham’s account, (see Part II. p. 13.) of a case of Scald, (which was the fourth instance of the new system being put in practice,) so far as it had then proceeded; but the case was then of too recent a date to admit of his

\* Facts establishing the Efficacy of the Opiate Friction in Spasmodic and febrile Diseases, p. 4.

giving the final result, such as the condition and appearance of the skin after the separation of the incrustations: whether this process was followed by marks and cicatrices, which are the usual attendants when treated in the common way.

With these particulars Mr. T. in a second letter, has supplied me, in terms highly gratifying, certainly, to the individual, of whose exertions in the cause, he is pleased to express a favourable opinion, but which upon the present occasion, connected as they are with his practical remarks, I should not think myself justified in withholding from the public.

THE FOLLOWING IS A COPY.

*Kendal, August 18th, 1828.*

“ Sir,

*After the success that had attended me in putting to the test your plan, I felt particularly desirous that you should experience some satisfaction in knowing, that giving it publicity had already been accompanied with the best results as far as one case was concerned. Moreover that you should be instigated to prosecute in your researches still further a mode of practice that I had great reason to extol from its sparing me much anxiety and trouble under circumstances which on all former occasions had added to the bitter part of one's professional career, for what can give to a medical man more painful inquietude than witnessing distress and agony not to be assuaged by any efforts in his power?”*

“ Soon after my communication was sent to you the little boy's face became free from the incrustations, each of which left the part underneath free from any inflammation, or unpleasant appearance whatever. Indeed, strange as it may appear, there is no mark, or look of the face, that can indicate any such thing as the late reception of a severe scald.

“ The father and mother of my late patient at first gave up all hopes of their son being spared to them,—then, when life seemed preserved, they could not think of entertaining an idea of the affected parts ever recovering their

wonted aspect; but now, when the face and neck of their once disfigured boy is seen in its former natural condition, without spot or blemish, you may picture to yourself their sentiments of satisfaction.

“ The new plan with Flour I can assure you has many admirers of its excellency and effect here, in consequence of this most successful case. It would seem wonderful that reasoning from analogy had not given occasion to the use of flour in burns and scalds some time ago, when it is considered how long, and often with what success, farinaceous and other powders were had recourse to as applications in cases of *Erysepelas*, many of which much resemble such accidents in the kind of inflammation; however, as now, through your benevolent exertions, a discovery unaccompanied with expense or trouble has been made known generally, IT IS TO BE HOPED THAT EVERY ONE WITHOUT PREJUDICE OR SCEPTICISM WILL AVAIL HIMSELF OF IT WHEN OCCASION REQUIRES.

“ I feel besides greatly obliged to you in my own individual medical capacity for the trouble you have given yourself in divulging A MOST VALUABLE IMPROVEMENT IN A DEPARTMENT OF THE PROFESSION WHICH WAS PREVIOUSLY BEYOND ALL DOUBT, IN WANT OF A REFORM.”

Believe me, Sir, ever

Yours with esteem,

**EDMUND TATHAM.**

“ Dr. Ward, Manchester.”

Before I proceed, I have a few extracts to make, and remarks to offer upon Mr. Tatham’s first letter, (see Part II p. 13) which would have appeared along with other important documents in my possession, long ago, but for indisposition and other unavoidable causes. This I regret the more, believing they are calculated to make a powerful impression in a practical point of view.

Mr. T.’s first visit to his patient, was on Friday morning, July 11, “ who had just met with a most violent scald, from receiving upon his face and neck, the contents of a pan of boiling water, which had blistered the skin

to a considerable degree. On entering the apartment I had occasion, (says Mr. T.) to witness great distress on the part of the attendants, owing to the piercing cries of the sufferer, who complained of burning pain, and the uneasiness created by the application of cold cloths, which greatly irritated the tender parts by *his perpetual restless condition and desire to be moved*. Finding that the greatest difficulty would arise *from his resistance to the application of the cloths*, or any thing requiring frequent change, I determined to make trial of the plan of covering the affected parts with Flour, therefore immediately requested to have the Dredger brought from the kitchen, that I might cover the whole of the Seald with flour, which I did to the almost *instantaneous relief of the sufferer*, and *the great gratification of his mother and relations*, who seemed astonished with the simplicity of the remedy, and its happy effects, which soon enabled me to leave the house, after directing that the Dredger should be copiously used whenever there was any exposure of the injured parts, and that a little of an anodyne be given for the sake of insuring ease and comfort, though there appeared no absolute necessity for such medicine. At my next visit, a little before noon, every thing wore a comfortable aspect,—the flour covering the face and neck, the boy perfectly quiet, expressing himself as very easy whenever inquired of concerning his condition. In the evening" there was nothing untoward of moment; a little swelling about the mouth and nostrils, but the whole system was wonderfully composed. I ordered that flour be put upon any part that might appear moist or uncovered. At my visit next morning, (i. e. in twenty-four hours after the accident) " I had the gratification of finding the little patient in every respect AS WELL AS COULD BE WISHED, having passed a tolerably easy night, and able to answer questions very comfortably. The inflammation which at my first visit threatened the most unfortunate consequences, had been amazingly kept under,—in short, under existing circumstances, nothing could proceed more favourably."

"At night," (after an interval of thirty hours) "there

existed the same composure as before, and freedom from fever or extension of inflammation. *The flour kept all about it cool, and had in many places formed a compact paste. No anodyne to night.* On Sunday, (when two days only had elapsed) I had the pleasure of still observing my patient go on satisfactorily,—*in a way indeed, such as I had never seen before in similar cases, where so much pain and distress had rendered attendance truly unpleasant.* *Here the suffering was for the most part trifling*—little, nay, almost no re-action had taken place, nor was there what could be deemed one unfavorable symptom. Owing to the difficulty of inducing him to take medicine, I considered any thing further unnecessary,”—“ *To relate any thing in detail further concerning this case, would only be a useless expenditure of time,*” (and this be it remembered, applies to the state of the patient *on the third day after the accident*, which happened on Friday, July 11, and the sentence last transcribed must be considered as the report of the Sunday following, as the letter is dated July 19, viz. eight days afterwards)—“ it will be sufficient to say, that the boy is speedily recovering his wonted spirits and looks—his face and neck becoming free from the flour, which was allowed to come off in flakes, leaving some parts underneath dry and free from excoriation, and others undergoing very slight suppuration, so as to afford hopes of there being in the end, *but small if any disfigurement, notwithstanding the appalling nature of the accident at first.*”

I shall make no apology for the copious extracts made for the purpose of illustration; in which every one must be struck with the clear and candid manner in which every thing is stated, the acuteness and humanity evinced in the management of the case, in which we cannot fail to observe, 1st, the alarming nature of the accident, which sufficiently appears from the sensibility of the parts affected, and the important functions with which they are invested, “ the vesications\* which were formed, the piercing

\* I imagine there were eschars as well as vesications, it would otherwise be difficult to account for the formation of the amyloacous paste and incrustations de-

cries of the sufferer, the distress of the attendants, and the swelling about the mouth and nares, which was such as to render the taking of any thing painful, the separation of the cutis, which must have happened in those places where “an amylaeuous and compact paste was formed by the flour uniting with the moisture, which (says Mr. T.) it did in many places.”—Yet, in circumstances so discouraging, such were the effects of applying flour, “which I did (says Mr. T.) to the almost instantaneous relief of the sufferer, and the great gratification of the attendants, who were ASTONISHED with the simplicity and happy effects of the remedy, which soon enabled me to leave the house”; and at his next visit, *a few hours afterward*, he found the patient “perfectly easy and quiet.” In the evening of the first day, and again the following morning, a similar report is given; “in short,” (says he) “under existing circumstances, nothing could proceed more favourably: at night, the same: the flour, we are told, “kept all about it cool. On Sunday morning, (when two days only had elapsed) he describes his patient “to be going on in a way which he had never seen before in similar cases, where so much pain and distress had rendered attendance truly unpleasant. Here the suffering was trifling, nor was there one unfavourable symptom.”—Such is the report given on the third day. To which I will only add what shews great sagacity considering his age, viz. “the repugnance of the child, who,” (after experiencing its beneficial effects,) “would allow nothing but flour to be applied.” (Poor little fellow—if the mere idea gives so much pleasure, how delightful it must have been to witness the reality.)

In commenting upon Mr. T.’s second letter I have to observe, that so copious was the discharge from the face and neck, as, by its union with the flour, to form “flakes

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cribed by Mr. T., which I presume were formed by the purulent matter uniting with the flour, as in a case of a similar description which is now under my care. So similar in all the leading traits do the two cases appear, that nearly the same terms might be used in describing both; except that the injuries sustained by my patient, (a fine girl aged five), were much more severe and extensive, and her life in the most imminent danger during the first three weeks. She is now (in five weeks after the accident) nearly well.

and incrustations, "each of which," (says Mr. T.) "left the part underneath, free from any inflammation, or unpleasant appearance whatever. Indeed, strange as it may appear, there is no mark, or look of the face, that can indicate any such thing as the late reception of a severe scald."

These facts are equally new and important, clearly demonstrating the unrivalled excellence of flour, over every other remedy, improperly so called, and if so, (to adopt the words of my esteemed correspondent, see p. 21) "it is to be hoped that every one, without prejudice or scepticism, will avail himself of it when occasion requires." —*A sentiment in which every humane and liberal-minded man will cordially join.*

When it is considered that this letter has been in my possession *upwards of seven months*, and the following *more than six*, as appears from the dates, I hope to be credited when I say, that vanity, or the mere love of praise, are not the principal, *much less the only motives*, which induce me to publish them *entire*. *Should any of my readers refuse their assent, I can only say, that I should not have thought myself justified in withholding from the public any opinion or sentiment, which the writers of the letters thought proper to express. Besides, if the favourable reports hitherto given should not be confirmed by experience, the praises thus liberally bestowed, will, of course, fall to the ground.*

The following letter I received from a much esteemed and highly valued, though not a professional, correspondent.

#### CASES 5 & 6.

" *My dear Friend,*

" *It would be unpardonable were I to delay longer expressing my sense of the real service you have rendered me and society in general, by the very useful discovery you have made in the application of flour to those who are so unfortunate as to suffer either from burns or scalds—two such dreadful evils, and which people of every degree are subject to. The remedy you describe possesses every recommendation, viz. the article of flour being one*

which is always at hand in every family, the facility and simplicity of its application, and its CLEANLINESS—but to crown the whole, the certain relief it immediately affords, which I have already had an opportunity of witnessing in two instances, even after the usual remedies had been applied in vain, by people unacquainted with your valuable discovery, and therefore the flour used under disadvantageous circumstances. Still its triumph was complete—and by pursuing your excellent plan of treatment, the patients were speedily cured.

“Excuse me concluding rather abruptly, as I am called off, but cannot leave you, my dear friend, without once more praising you for your benevolent exertions; and am truly glad that they have been more successful than your late attempt to get the legacy duty of ten per cent. upon charitable bequests repealed\*—indeed you have now certainly immortalized yourself, and must experience heart-felt satisfaction in not having toiled in the vineyard in vain.”

*Believe me to be yours truly,*

*A. J. HYDE.”*

“*Liverpool,*

*Sept. 18, 1828.*

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\* My correspondent alludes to a petition which was presented to the House of Commons in April, 1826, and another to his Majesty in 1827, for the repeal of the tax of ten per cent. upon charitable bequests, which, I am sorry to say, TARNISHES THE GLORY AND IMPEDES THE PROSPERITY OF OUR COUNTRY. IN NO OTHER WAS SUCH A TAX EVER HEARD OF. On the contrary, in France, and some of the other States of Europe, the principal public charities are established and supported by the respective governments:—(*The Hotel Dieu at Paris, for example*); a measure which will soon become necessary in this country, or the admission of patients be limited so as not to exceed the expenditure, (a plan which has already been adopted in several public charities that I could name,) if this very objectionable tax be not speedily repealed.

This subject I intend to resume at my leisure, and if it meet with that support from the Trustees and Governors of the Hospitals, Infirmarys, and other public charities which its importance demands,—there can be no doubt whatever in my mind, of its being repealed: particularly when we consider, that though the gain to the Charities *individually*, would be considerable, (as besides the actual amount of the savings, many bequests would then be made which are now withheld, owing to the dislike so generally expressed against this tax,) THE LOSS TO THE REVENUE WOULD BE TRIFLING—*A DROP OF WATER TO THE SEA.*

*Had the prayer of my petitions been granted, nearly double the amount of the profits arising from the late Festival, would have been saved to the Funds of the Public Charities, in Manchester.*

## CASE 7.

Four months ago a brewer, who had scalded his right arm from above the elbow to the fingers ends, ran to a factory belonging to Mr. Welsh of Ancoats-Place, to beg some *tallow*, which it seems is a “common application among the lower ranks of people.” Mr. W. who had read the Tract lately published on this subject, replied,— “*instead of tallow I will give you some flour, which is a great deal better than tallow,*” (both these articles are, fortunately for the man, kept in Mr. W.’s manufactory,) *and immediately sprinkled flour plentifully all over the limb, to the speedy relief of the sufferer, who had described the pain to be—“as if his arm was burning in the fire;” yet the same evening he was so much better as to tell Mr. Welsh, “he thought the flour had taken the fire out,” and slept that night nearly as well as usual;* (the accident happened on a Saturday afternoon,) and on the Monday following, when a day and a half only had elapsed, was so easy as to attend the brewhouse, and in about a week, by continuing the flour at proper intervals, no further inconvenience was experienced.

## CASE 8.

Mr. Gordon, a pupil to Mr. Barton, surgeon, being on a visit in Scotland, was requested to see an infant, four months old, whose hand had been scalded. The vesications extended to nearly the size of a crown piece, and the attendants were unable to appease the cries of the child, which had been incessant. Having read parts I. and II., he gladly embraced the opportunity of trying the effects of flour, which were such, *that the crying of the child became less and less urgent, until it fell into a comfortable sleep, to the great joy of the mother, the attendants, and himself.* On the third day, the flour being re-applied whenever the child seemed uneasy, no appearance of the accident, a slight redness excepted, remained.

## CASE 9.

A medical student in Manchester, acquainted with Mr. Gordon tried the experiment upon himself, and it pro-

duced the desired effects in an unusually short time. I do not remember whether it was a burn or a scald, but this is immaterial.

#### CASE 10.

Five months ago, (in October, 1828,) Dr. Johns informed me that he had experienced the good effects of flour in a case of scald which happened to his son, aged five. “*The part affected, was the skin of one arm, which was blistered. His complaints of pain were urgent at first, but, upon applying flour, were soon appeased, and he heard no more of the accident.*”

#### CASES 11 & 12.

Communicated by Dr. Alexander, whose report, after putting it to the test in one instance, and directing it to be done in another, is likewise favourable. To which many of a similar description might be added if the time allowed. Three families in which its good effects were experienced, were delighted with the ease which the individuals obtained, and the speed with which they recovered by adopting the new method of treatment; in the success of which they expressed themselves much interested.

The following cases are of a more recent date, and must on no account be omitted.

#### CASES 13 & 14.

##### ACCIDENTS BY GUNPOWDER.

“*To the Editors of the Liverpool Mercury,*

“*Having seen in your paper of the 17th instant, an account of a boy who had severely burned himself with gunpowder, I beg leave to lay before you a similar case, together with the treatment of the same, thereby offering to the public a caution against accidents, and also a valuable remedy in case of their occurrence.*

“*Yesterday afternoon, as three boys were amusing themselves by firing off a small cannon, a spark communicated to two ounces of powder in a tin box, which immediately exploded, burning the face and neck of one boy very severely, and the face of another in a less degree.*

“*A person who happened to be in the house at the time, and had fortunately read the valuable pamphlet on the sub-*

jeet by Dr. Ward, of Manchester, suggested the application of flour. The children were accordingly laid upon their backs, and the parts affected plentifully sprinkled with this simple remedy. The effect was surprising. The relief was almost instantaneous; and in the course of about half-an-hour, both of the sufferers were perfectly free from pain; so much so, that the one least burnt walked home the same evening; the other, though severely injured, passed a very comfortable night, and, up to the time of writing, (a period of about thirty hours) has not complained of inconvenience.

“ The chief object of my laying these eases before you is, that parents may not be at a loss, in ease of such a misfortune happening in their own families. FLOUR IS A SUBSTANCE WHICH IS ALWAYS AT HAND, IS EASY AND PLEASANT OF APPLICATION, AND CANNOT DO HARM: AND AS SOME MAY THINK THAT IT WILL LIKEWISE DO NO GOOD, TO THEM I HAVE ONLY TO SAY, CREDE EXPERTO.”

“ Liverpool, October 19th, 1828.”

#### CASE 15.

The following case appeared originally in the Taunton Courier, and was copied into the Morning Herald, from which it is taken.—

“ A few weeks ago we communicated the distressing ease of a man who was brought to the Taunton and Somerset Hospital, in consequence of falling, while in a fit, into a LIME KILN, by which he was so shockingly burned—absolutely roasted all over—that his death was considered inevitable. In this state the only experiment which was practicable appeared to Mr. Weleth, the surgeon whose duty it was to attend the sufferer, to apply very frequent dressings of flour, which were found to abate the pain, and by persevering in this mode of treatment, the patient was ultimately recovered.”\* This being one of those extreme cases in which I have long wished the remedy to be put to the test, not

\* Another version of Case 15, appeared in a Liverpool paper about the same time.

“ A few weeks ago, a man while in a fit fell into a Lime Kiln, at Taunton, and was almost literally roasted. He has since recovered by the application of very frequent dressings of flour.”

doubting that it will answer every expectation that can reasonably be formed, I wrote to Mr. Welch to request he would favour me with the particulars, and have received the following reply.

13th Nov. 1828.

Sir,

*"In consequence of your request Mr. Welch has directed me to transmit the particulars of the case lately under his care, from my having had as his pupil, a constant attendance on the man, and a good opportunity to observe the effects of so simple a remedy.*

*On the 6th of August, John Wall, aged 21, was brought to the Taunton and Somersct Hospital, suffering from an accident arising from having fallen into a lime kiln, flat on his back, whilst labouring under a fit, which at intervals he was subject to. As he lay on his belly, the only position to prevent lying on the burnt parts, he presented a frightful appearance even to one accustomed to accidents. His death to the medical men some of whom visited him from curiosity, to witness the extensive surface destroyed, consider- ed his death inevitable. On first seeing him the constitution was not emerged from the stupor and insensibility following the fit, consequently at that time, did not feel such acute pain as one would suppose. The parts burnt were one side of the face and head, the right arm through its whole extent, the tendons on the back part being destroyed, the left considerably; the back was one continued black spot, the nates (buttocks) were another, a slight space intervening between them and the back, which continued through the whole back of the legs and thighs to the ankles. As soon as possible I applied our accustomed application of turpentine and linseed oil, to be renewed every ten minutes, keeping the cloths saturated with it. The night passed as well as could be expected. The next day the Lin. Tereb. from the difficulty of keeping on the cloths was exchanged for the Crate made to the consistence of treacle and laid on as varnish. This application was continued until the parts began to slough, at some places a week, at others (the arm) a fortnight. Until the sloughing of the dead parts had separated completely, it was not*

thought advisable to apply the flour, but as soon as the dead parts did come off the surface was directly sprinkled thick with it. As a pupil I expected to have an enormous deal of trouble to dress the unfortunate patient, as I have before now with the old method, if I may so call it, and with a much less extensive burn. I assure you I was agreeably surprised to find the contrary, and that wherever I found I could get the flour to stay on and form a flake or crust, the parts underneath were prevented from discharging and it invariably healed. The flour was renewed every night and morning. The legs were the first to heal and then the back, but from the difficulty of keeping the arms enveloped, or sprinkled with the flour, it was three months before they got well. Sometimes after a crust had been formed, owing to the man's restlessness it was rubbed off, leaving a sore, which again required the flour as the best application. To prevent this from being the case, after the flakes did seem perfectly formed, I used for a little time to scatter the flour just the same, which I think prevented many flakes from falling before they ought and before I wished. After the flakes had been on sufficiently long to perform their functions, they dropt off leaving the parts of a red appearance, similar to new skin. According to your cases in the *Lancet*, the patients expressed themselves to be made easy by the application, this man sometimes said it made the places smart, which I do not think at all likely, nor do I think he knew what would and would not, so it was taken no notice of, considering the application answered every purpose for which it was applied, and in the end proved extremely satisfactory, so much so that Mr. Welch thinks it was the very thing that saved his life, and as for myself, as my opinion may be of some consequence, I have not the least doubt of it.

During the first month his evacuations were involuntary, and frequently afterwards, having had diarrhoea at intervals. His dict has been full in the extreme, in fact his appetite has been voracious. It is almost charity now to wish him dead, being totally unfit for any employment; what time may do I know not.

I believe, Sir, I have now told you all, not having

*made notes at the time, but should any further information be required, I shall feel great pleasure in obliging a professional gentleman, or any, liking that pursuit that has the means of alleviating the pains and evils that flesh is heir to.*

*Sir, Your's respectfully,*

*Taunton, East-Street.*

*ROBERT P. WELCH."*

*"To Dr. Ward, Manchester."*

*"P. S. The man I should tell you, whilst in the hospital, also had a recurrence of the fits. We intend, unless the parts appear deeply burnt, to use flour from the beginning; a medical gentleman of the town having used it to his satisfaction in an accident arising from gunpowder, on the 5th November."*

In offering a few remarks upon this valuable letter, nothing can be further from my intention than to question the propriety of what was done in this very extraordinary case, and the method of treatment forming so striking a contrast to those which have been so long in use. On the contrary the observations that I shall have occasion to make must be considered as having no other than a general and *prospective* tendency.

Much praise is due to Mr. P. Welch for the care and attention which he gave to the case, and he must feel great pleasure in reflecting upon the success with which his labours were crowned. Were a similar one now to occur, (or one still more severe and extensive,\* from whatever cause the burn or scald might arise,) I would,

\* The following is a case in point, recorded in a London Paper. "A man lately fell into a vessel of *boiling grease*, and in this miserable state lived some hours." What was done was not stated; and though it would argue either great ignorance or presumption to suppose he could have recovered, this would not have prevented me *from attempting his relief*,—in this way.—After sprinkling flour to the thickness of three or four inches upon a bed or sheet, and lapping him up in them, I should continue this operation upon those parts of which his complaints were the loudest, and the rest in succession, either until the whole surface of the body were enveloped in flour, or a manifest abatement of pain became evident; and a return of the pain to any thing like its former violence, would be the signal for repeating and renewing the process without intermission, until the desired effect were produced, or the unhappy object released. In this way I should proceed in all cases considered hopeless, well knowing that if this were not productive of relief, there is no other known, or likely to be, from which it can reasonably be expected.

without a moment's delay, apply flour, and *flour only*, copiously and plentifully to the injured parts, and repeat it not less than three or four times every twenty-four hours, or oftener if a return of pain were to indicate the necessity. And this I should do from a conviction, now amply confirmed by experience, that such is the peculiar influence of flour, (whatever be the modus operandi) in diminishing the inflammation and promoting the reunion, reaction, and restoration of the vessels between the dead, or rather the dying, and living parts, where eschars have been formed; and of exciting that kind of action which is requisite for the reabsorption of the lymph where vesications only have taken place, processes which must be admitted before we can explain the rapidity of the cures which are now upon record as being completed in a few days, which formerly occupied as many weeks, *or even months*, and where the old modes of treatment are resorted to, *ever will require a proportional length of time*; several instances of which have come to my knowledge since the publication of part I. and II. of patients being confined *from four to six months*, and undergoing dreadful afflictions nearly all the time; in one instance particularly, where the patient lay upon a bed on the floor between three weeks and a month after the accident, (a scald of the arms and one leg) being unable to be moved on account of the intensity of her sufferings, as her husband told me. To enter further into particulars might appear invidious.

2nd. We are encouraged by the unexpected recovery of John Wall not to despair of success while there is life, as far as our proceedings are concerned; for though the injury be such as to render recovery seemingly impossible, yet we may be assured, that in applying flour *immediately, frequently, and plentifully*, we shall be adopting the only plan, (strong terms I grant, but now fully warranted,) which can enable us to fulfil the next duty we owe to society and to individuals when we cannot preserve life, *viz. to palliate the evils to which it is subject; and thus to smooth the passage to the grave in cases which, of all others, have the strongest claim to sympathy.* At all events it

would be highly culpable and extremely unfeeling to omit doing what is evidently *not merely inoffensive and incapable of aggravating the hardships of such a situation, but may now and then, as in the present instance, be the means of preserving life, after all hope had subsided.*

3rd. "We intend, (says Mr. P. W. in his postscript) unless the parts appear deeply burnt, to use flour from the beginning—a medical gentleman in the town having used it to his satisfaction, in an accident arising from gunpowder on the 5th of November.

Relying upon the eandour so apparent in his letter, I beg leave to observe, that the more deeply burnt or sealed the parts may be, *the stronger, in my mind, are the reasons for employing flour immediately, or as soon as possible after the accident, and continuing it exclusively and copiously,* not doubting that it will prove the best of all remedies, and the only one deserving the name, on every occasion of this kind, whether superficial or otherwise;—a conclusion which is the result of a good deal of experience, and much reflection, upon the certain efficacy of flour, and the total inefficacy, or something worse, of every thing else, two excepted, which, though far superior to those in common use, I must be excused naming at present, lest some might be tempted, (by prejudice or some other motive) to use them in preference to flour, with which, even if they were equal in other respects, which they are so far from being that not the most distant comparison can be made, are extremely deficient in that most essential and valuable quality, *which belongs exclusively to flour,—of being always ready when wanted.*"\*

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\* In these respects, viz. the ubiquity and easiness of access, flour exceeds every other production,—air and earth excepted, neither of which however necessary to life, happens to suit the present purpose, any more than that heterogeneous medley of drugs and nostrums, misnamed remedies, which have been from time immemorial, and I am sorry to say still continue, in use; though equally injurious to the public interest, and disgraceful to the profession. With equal reason might some pretender to Surgical knowledge have recourse to the ancient mode of amputating limbs in preference to the modern one, by which he would subject himself to damages in a court of justice for *malpractice*, in not employing the latter; by which a great saving of time and expence, and what is of still more consequence, of *bodily pain*,

4th. The surgeons of the Taunton and Somerset Hospital are, I believe, entitled to the credit of being *the first surgeons of a public charity* who have put this inestimable remedy to the test, followed by a public declaration, that the recovery of the patient, whose death was considered inevitable, was to be attributed to the use of flour.\* *Such an example cannot fail, it is to be hoped, to produce a corresponding one upon the surgeons of other public charities*, who possess opportunities which no private practice affords of bringing to the test *safe and rational experiments*; and such a claim upon their liberality is the more imperative, if the experiments refer to a branch of practice, "*the defects of which are so glaring as to call aloud for an immediate and effectual reform.*"

Nor is this all,—for if it be true that by adopting this plan of treatment cures are completed in a third or fourth part of the time required by those in common use, it follows of course, that besides the immense diminution of pain and suffering to the patient, *there must necessarily be a considerable SAVING OF EXPENSE TO THE FUNDS OF THOSE HOSPITALS, INFIRMARIES, AND OTHER PUBLIC CHARITIES WHERE PATIENTS OF THIS DESCRIPTION ARE ADMITTED; NOT TO MENTION THE VALUE OF TIME TO THE PATIENT, HIS FRIENDS, AND EMPLOYERS, AND OF A BED IN EVERY PUBLIC INSTITUTION.*

#### CASE 16.

*"The son of a respectable shopkeeper in this town was so dreadfully burnt, by the unexpected ignition of some fireworks in his pockets, on the 5th of November, that his recovery was for some time doubtful. We are happy, however, to state, that he is now in a fair way of surviving the*

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*and suffering to the patient, would have ensued. An instance of such a decision was reported in "The Lancet" a few months back; an operation had been performed, from which, after a tedious and painful illness the patient recovered, but proved to the satisfaction of the jury, that he would in all probability have recovered much sooner if a different method of proceeding had been adopted.*

*Another and a similar case is said to be preparing for trial.*

\* About four months ago I was informed that the new system has been adopted with success in the Liverpool Infirmary, but cannot assert it as a fact.

accident. FLOUR frequently sprinkled on the burnt parts was also resorted to in this instance, as in the case of suffering from burning with lime, communicated last week, and with the same happy effect. IF THIS BE REALLY A REMEDY, AS IT APPEARS TO BE, IT IS DELIGHTFUL TO THINK HOW CHEAPLY, READILY, AND UNIVERSALLY PROCURABLE, IS THE ANTIDOTE TO SO ORDINARY A CALAMITY.—*Taunton Courier.*” This is the case adverted to by Mr. P. Welch, see page 32.

The two next cases were communicated to me yesterday, (Dec. 5) by a gentleman who had seen them in a Bolton newspaper, one of them being taken from an Edinburgh and the other from a Carlisle newspaper.

If he can procure a copy of them, with the addresses of the parties, (the name of one or both the surgeons was mentioned,) I shall endeavour to procure an account of the particulars, and if it arrive in time, it will appear.\*

#### CASE 17.

A brewer’s boy fell into a vat of boiling liquor. The appearances and effects produced upon his frame were described as terrific, and his death considered inevitable. He was immediately put upon a course of *flour* by the surgeon in attendance.—The result was, (*as given by the surgeon* whose name he had forgotten,) that he recovered in a manner, and with a quickness, that was equally unexpected and satisfactory.

#### CASE 18.

The particulars had escaped the gentleman’s recollection, and whether it was a burn or a scald, but he remembered perfectly, that in this case also flour was the remedy employed, and produced the most beneficial consequences in an usually short space of time.

#### CASE 19.

Miss E. Welch scalded her foot and instep. The difficulty experienced in removing the stocking generally increases the inflammation, so as to occasion vesications when they might otherwise probably not have been formed.

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\* No further information has been received.

And so it was here. The pain was described as being very acute, but was soon relieved by the flour which was applied: insomuch that the day following, feeling little or no inconvenience, she discontinued the use of it, and put on the shoe which she commonly wore, and walked out; but the pain, and inflammation returned, when the use of flour was again resorted to. On the fourth day she was quite well.

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The following most alarming accident lately occurred to a lady in the immediate vicinity of Manchester, in which I have to announce another complete triumph of this excellent remedy over the obstacles with which it has to contend in its progress to general adoption, *which it must ultimately, (it is to be hoped soon) in defiance of all opposition, attain.* Not the slightest reflection is here intended either upon the medical gentleman in attendance, or any other person. On the contrary, I learn from Mr.—— that it ranks very high indeed in his estimation from what he has now seen of its effects. *My only intention is, both in this and every other instance, or remark, recorded in this tract, to state facts, without giving the smallest offence to any one.* But it is an affair of too much importance I conceive, to justify a contrary or temporising method of proceeding. *Besides, great allowance ought to be made for the difficulty of relinquishing preconceived and long established opinions.*

#### CASE 20.

About eleven in the evening of November 26th, 1828, Mrs.—— in carrying a candle up stairs, set fire to a muslin frill round her neck, which instantly communicated to her cap, hair, gown, &c., and in this blazing condition she ran screaming up stairs, followed with all speed by Mr. and Miss——, who in their surprize and terror, attempted to extinguish the flames with their hands, which were severely burnt, without rendering her any assistance. A large top coat was then procured, but in the hurry and confusion inseparable from such a situation, the lady and

her daughter fell down, which caused more time to be lost, the fire still raging. Mr. —— then took the coat, and at length succeeded in putting out the fire.—One or more of the family having either seen it quoted, or heard in conversation, that flour is now considered infinitely preferable on such occasions to every thing else, immediately procured some from the kitchen and applied it. The consequence was, that in about two hours, the terrible anguish which she had suffered was exchanged for a state of comparative ease and composure, which continued, (the flour being repeated at proper intervals, from which relief from pain was always obtained,) until the eleventh day, when a lotion was recommended and prescribed, and the flour was removed from the upper part of the arm, (which had suffered most from the fire,) and the lotion was applied in its stead; *but was very soon removed, and the flour again applied, at the earnest solicitation of the patient,* on account of the pain, which she said, was as bad, or worse than ever. From that time, flour alone was applied, and the improvement has been regular and progressive, and she is now (viz. in five weeks after the accident) nearly recovered. Her recovery however, must, in all probability, have been considerably retarded, by a circumstance which it is my duty to mention, *and which took place before the family physician was called in*, which was not until the day after the accident, “so great and unexpected was the benefit she had received from the flour.”

Mr. —— “having some very fine cotton in the house, and having heard it recommended, applied some of it *over the flour*,” (how long it was allowed to remain I do not know exactly,) and what is still more unfortunate, *omitted to remove it* at the next dredging, and some of the succeeding ones, with flour, which must of course obstruct and impede, its natural and genuine operation upon the injured parts. *For how could the latter take place with such an obstruction placed in its way?*

This being my opinion, it would be unpardonable, in a business of so much moment, to conceal it, though it was evidently done with a good intention, by Mr. ——

(the lady's husband) by whom it was related to me five weeks after the accident.

The parts which suffered most from the fire, were one side of the face and head, the neck, breast, one arm, and the axilla (the arm pit) of the same side.

#### CASE 21.

Communicated by Mr. Jordan, surgeon.

The accident happened to Mary Taylor, aged five, whose toes and feet were scalded, and were treated at first in the usual old-fashioned way, which produced the usual effects, that is, the pain became more and more severe, until the cries of the child could no longer be born, when Mr. Taylor (who is a veterinary surgeon, and had seen part I. and II.) applied FLOUR, which very soon produced such effects as could not fail to be agreeable and pleasing to the parents of the child, whose lamentations were changed into joy, and by continuing the flour (for in this case, as in that communicated by Mr. Tatham, the child called for it when the pain returned, *and would allow nothing else to be applied,*) she soon recovered. About this time Mr. Jordan saw the child, (for the case was not under his care,) and asked her why she preferred flour to every thing else. Her answer was, "Because it made me easy and go to sleep."

*This is the third instance* (see cases 4 and 20) *in which the same determination was expressed by the patients;* fully demonstrating every thing that the friends of flour, (in other words of humanity) could desire: two being children incapable of deception, and the other an adult too severely afflicted to think of any thing so much as how the misery she experienced could be most speedily removed. Mr. Jordan said that Mr. and Mrs. T—— wished me to see the child. This invitation I accepted, and had the satisfaction of hearing the above statement confirmed, and of seeing the feet of the child, which, notwithstanding the severity of the scald were free from a cicatrix or mark of any kind, a slight redness excepted.

## CASE 23.

Communicated by Mr. Jesse, surgeon, who overtook me on the Green, a few days ago, and informed me that he had tried the new remedy in a severe scald of the face, where the pain was exquisite—but that upon applying flour *it operated like a charm* in removing it, and was convinced from what he had seen of its effects, *that it would prove highly advantageous to the community*. Mr. J. has since sent me the following brief narrative of the case, which I will give in his own words.

Dec. 2, 1828. “*Master C——, aged 9, met with a scald on the left side of the face. It extended from the zygoma on the left side, to the lower edge of the inferior maxillary bone, and as far forward as the mouth. When visited, the accident had existed half-an-hour. The usual appearances of redness and vesication, with intense pain, presented themselves. Anxious to try the new remedy, flour was applied, dusted over the surface, to the thickness of about an-eighth of an inch. The effect was—an immediate alleviation of the pain, and in the course of half-an-hour it was so far subdued as to create very little uneasiness. The flour was covered by four or five folds of linen and secured by an handkerchief. There was no return of pain, and I did not think it right to disturb the parts on the 3rd.—On the 4th the bandage had become loose, and the ’kerchief was removed. On removing the flour, the parts appeared similar to what a blister leaves when well—a sealy surface.—The whole came easily off, and created no further trouble.*

JOHN JESSE, Surgeon.”

“*Downing-Street,  
20th January, 1829.”*

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Many more cases might be added, but I shall confine myself to the following, which is perhaps one of the most interesting that has occurred, whether we consider the extent, and severity of the Scald, the dangerous and alarming symptoms with which it was attended, which were of such a kind as to establish upon still firmer grounds, the value of that remedy, the effects of which

have elicited so many warm and voluntary encomiums in its favour;\* the age of the child (five years and a half,) and *the favourable termination of the case under circumstances the most unpromising.*

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\* Among others not yet noticed is one which has been in my possession nearly a year. So long ago as June 3, 1828, I received a letter from the Rev. H. Penny, Kensington, who, after expressing his opinion of the value and importance of the "New Method of Treatment"—in very strong terms, adds:—Two copies of your Treatise I will lay upon the Board Rooms Tables, of St. George's and the Middlesex Hospitals; but I much fear that the simplicity of the application may militate against professional interest in a pecuniary point of view, consequently as unpalatable as their own bitter draughts which are always accompanied by a golden pill, a Sovereign attendant:—but in the present instance—"Palmam qui meruit ferat."—With deference however to the opinion of my valued friend and correspondent I am strongly inclined to think, that ultimately, the pecuniary interest of the profession will be found to be greatly promoted by the discovery and universal adoption of the practice recommended. This is not the time to discuss the point, but this the author intends, and has no doubt in being able to establish to the satisfaction of every liberal and enlightened man, should his indisposition, which has assumed a somewhat serious tendency, allow him to resume the pen, an idea which he scarcely dare indulge; and this forms a strong additional reason for not suppressing the favourable reports and opinions which have been expressed, evidently with this intention, even where it was not avowed, by his kind and liberal correspondents.

That these praises would have come with much more force and propriety from any one rather than from the person to whom they are addressed, is very clear, but as there is no other channel through which they are likely to obtain publicity; and as they at the same time give additional weight to the practice by the extraordinary interest excited in its favour, the balance of argument appears to be in favour of their being published in this manner, *rather than not at all*; particularly if we consider, that even if half of the facts which have now been brought forward (still more if the whole) be correct, (and I have repeatedly pledged my credit to their correctness,) there would have been much greater cause for surprise, considering the frequency and melancholy consequences of these frightful accidents, if the praises which have been so kindly and liberally given had been withheld, than that they should have been bestowed. Some of them, and those not the least valuable, are from persons who were previously unknown to me, and could have had no motive whatever for acting as they did, except with a view to the public good.—*Here I wish to ask, of what other really useful and valuable remedy, Flour excepted, in praise of which a tenth part as much has been said as HAS BEEN REPEATEDLY AND FULLY PROVED RESPECTING FLOUR, can it be maintained, that it is always ready whenever, and wherever, it can be wanted; that it is infinitely more efficacious and uniform in its operation than any other remedy hitherto discovered, or at least made public; AND EASILY APPLIED, WHERE A SURGEON OR MEDICAL MAN HAPPENS NOT TO BE PRESENT, BY ANY PERSON OF MATURE AGE, so as to prevent loss of time, which in these cases of all others, is of the greatest possible importance?*—The replies to these questions will of course be easily anticipated.—But until the latter can be clearly, and satisfactorily answered, (in a way the reverse of that which I wish and expect,) I shall be justified in concluding, that there would have been much more cause for surprise had the encomiums been withheld than that they

## CASE 23.

January 12, 1829. Emma Booth, aged five and a half, being left alone in the kitchen, kneeled upon the edge of an Iron Pan containing *two gallons* of boiling water, which had been incautiously left there, and being a fine fat child, and the pan having only *three feet*,\* it was overturned in the most unfavourable direction, viz. towards and upon her, she of course falling forwards. Her screams soon brought her mother to her assistance, when she was found dreadfully scalded from the nose nearly to the umbilicus, (the navel,) including the nostrils, lips, chin, neck, breast, upper region of the abdomen, the left side of the chest, extending towards the back and scapula, (shoulder blade,) the left arm from below the elbow to the shoulder, particularly the inner, under, and back part of it, from the elbow to the shoulder; (where the muscular fibres and skin are of a peculiarly delicate texture,) the axilla, (arm pit,) of the same side; all of which when her clothes were removed, (a work of some difficulty, and consequently requiring a proportional length of time,) presented nearly one continued livid, or black surface, *as if an immense caustic had been applied, and a deep thick eschar of a corresponding size formed, the whole of which afterwards came away successively, leaving the intercostal muscles bare, as when prepared by dissection for anatomical demonstration.*

She was first seen by Mr. Slack, a druggist, who found her friends busily employed according to custom, rubbing and greasing her *with linseed oil*, which he endeavoured to remove, and then applied a copious dredging of *flour*: and he it was who communicated the case to me.†

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*should have appeared; and also in believing that in this, as in other instances in which the "march of intellect" is concerned, the cause of truth and science will ultimately prevail, by the universal adaption of the practice recommended.*

\* Four would be much more safe and convenient.

† He also informed me that he had of late, since he had seen the Treatise, recommended Flour to those who came to his Shop on such occasions, (and though many had applied) he had never heard of them after, from which he concluded it had

Being then indisposed, I could not see the child that night. He did not think it could live till the morning following; but, should the contrary happen, this was agreed to, and an anodyne prescribed, to be used or not, according to circumstances. This was about 5, P. M. of January 12, 1829. On the 13th, at 11, A. M. I learned that she had passed the night much more quietly and easily, and had slept much more than was expected; but was attacked about nine with convulsions, which continued sometime, leaving her much exhausted. In this state I found her, extremely unlikely, apparently, to survive such complicated sufferings. I was requested however by Mr. S. and the parents, to undertake the management of the case, and from that time it was entirely under my care, and has proved of so much more importance, practically speaking, than I expected, (shewing, as it does, the method of treatment necessary to be adopted, when mortification is either threatened, or actually takes place, which it appears, from the event of this case, may now and then occur, *though much seldom beyond all comparison*, under the New Method of Treatment than any other, and thus forms an epoch in the history of flour as a remedy for burns and scalds,) as to make me regret that I did not keep a regular journal of the case. The omission, however, being unavoidable, I shall endeavour to supply the deficiency, by describing the mode of treatment which was adopted, in consequence of the accession of a train of symptoms of the most alarming tendency, which often occur in the most severe and dangerous cases, where a large surface of the skin has been exposed to the action of the burning or scalding clement, and almost always prove fatal; and the plan having been productive of great and decided advantages to the patient, I shall now proceed to record.—A journal was kept a few days, with which the

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produced the desired effect;) an example deserving of imitation. What reasonable objection could be urged against Druggists keeping a little Flour in their Shops and charging a reasonable price for it?

As the public Charities are open to the Poor, such a regulation appears to be equitable and proper.

account will commence. I have already stated, (see above, page 42) from what cause, and in what manner, the accident happened, with a brief narrative of other circumstances to which I must refer.

### CASE OF EMMA BOOTH, Continued.

The accident took place on Monday, Jan. 12, 1829, at 5, P. M. "By means of lint and old linen, as much of the grease was absorbed and removed from the skin as could conveniently be done; flour was then applied.—In ten minutes, decided relief from pain.—9, P. M. flour repeated.—R. Tinct. Opii m. vi. Aquæ Cinnam. drachmam unam—puræ drachmas tres, Fiat Haustus, hora somni sumendus.—Tuesday, Jan. 13, 6, A. M.—Slept from ten to twelve, and passed the night more easily and quietly than was expected, but was uneasy at times.—10, A. M. was attacked at eight with convulsions, which continued some time, leaving her extremely weak and exhausted:—bowels constipated.—Enema Com. statim injic.—12 merid. —Had slept two hours; pain and irritation lessened; tongue clean; pulse soft; clyster operated.—Wednesday, Jan. 14, 9, A. M.—Slept at intervals the whole of the night.—7, P. M.—Continues better.—Thursday 15, 9, A. M.—Uneasy and restless at times.—7, P. M.—Bowels uneasy; breath offensive; countenance pallid. Cap. p. r. n. Ol. Ricini.—Friday 16, 9, A. M.—In all respects better; bowels open."—From this time until the 31st, appearances were favourable. She was, at times, feverish and restless, and suffered greatly when moved either to make the bed, or for any other purpose, and complained much when shook, or accidentally or otherwise, was touched upon the injured parts; but, upon the whole, seemed to suffer, and complained much less, considering the pitiable state in which she lay, than could have been expected; for the left side, arm, shoulder, breast, cheek, ear, neck, and chin, having suffered most dreadfully from the scald, the only position in which she could lie, during five or six weeks, was upon the back, inclining to the right side; partly upon both, rather than directly upon either. The soreness of the mouth with aphthæ, which soon after su-

pervened, added greatly to the uneasiness and danger which she had to undergo, not only from the smarting pain occasioned by every attempt to swallow either food or medicine, but also by depriving her of that nourishment and support which were now become indispensable, during the inflammation, suppuration, and ultimate separation, in successive portions, of deep and large eschars (or sloughs) of a size and magnitude so enormous, the age and sex of the patient considered, as almost to deter me from hazarding an opinion as to their probable extent, lest I should be suspected of exaggeration.—Calculating by square inches, I imagine that the number could not be less, including the whole of the scalded parts, than fifty-five or sixty: a deficiency which was afterwards to be supplied by the *vis vitæ*, with such assistance as art could furnish to nature.—The discharge, which had been moderate in quantity, mild and innoxious, now became more copious and offensive, causing great additional irritation and mischief, both locally and generally, which were manifested by increasing debility, restlessness, thirst, a weak quick pulse, foul tongue, and other symptoms of synochus.—It will be easily believed that, in a situation so perplexing, there could be no reason whatever to expect that the ease would end favourably; on the contrary, though more than commonly anxious for her recovery, I looked forward to a speedy and fatal termination; for, before a favourable prognosis could be formed, it was obvious, that various indications must be fulfilled, which appeared very unlikely to be accomplished. 1st. The tendency to mortification must be stopped, the discharge lessened, and its depraved state altered, before the local irritation and pain could be relieved, and the consequences of the absorption of the matter upon a frame so weakened, removed.—2ndly. The inflammation of the mucous membrane of the mouth, and the inconveniences with which it was attended, must either be subdued, or such diet and medicine prescribed as could be swallowed with impunity, if not with advantage; desiderata which had, hitherto, eluded the efforts of the medical and other attendants.—3rdly. ease and sleep must be obtained before

the fever could be expected to subside, or the appetite to increase.—In such a situation, to encourage hope seemed little short of madness;—however,—“ **NE TENTES AUT PERFICE:**”—Accordingly, I resolved to leave no effort untried that promised even a chance of success.

Before I proceed, it will be proper to observe, that from the first, flour had been regularly applied from three to five times every twenty-four hours, either partially or generally, agreeably to the directions already given, and always procured ease, of which the child was so sensible, that nothing appeased her restlessness and impatience when they did come on, except assuring her that it was about to be applied, after which, she generally either slept or took nourishment. A tea-spoonful or two of castor-oil, and a clyster were occasionally administered, and six or eight drops of tincture of opium, in a small portion of liquid of any kind, at bed time, (to be repeated in the night if required) instead of the anodyne draught which she had refused; and when the discharge began to increase, and the sloughs to come away, the matter was gently absorbed by slight touches with a soft sponge, moistened in a decoction of poppy heads and chamomile flowers, in water; which proved, afterwards, when the discharge became still more copious and offensive, of great and essential service, immediately before the flour was applied: *care being taken not to moisten the parts affected more than was absolutely necessary, and to preserve the child's clothes, sheets, &c. from becoming damp.*\*

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\* R. Papaveris somniferi capsularum concisarum uncias duas,—Florum Anthemidis unciam unam,—Aquaæ Puræ octarios duos; Coque per quartam horæ partem et colla. This is, in my mind, the only lotion that is admissible in burns and scalds; and never but in those severe and dangerous cases where the *quality*, as well as the *quantity* of the discharge is such as to irritate und inflamo the parts affected, and to produce, when absorbed, fever, mortification, and death: events which, I am sorry to say, frequently take place from an obstinate perseverance in a practice which, it were to be wished, for the credit of the profession, and the good of society, had been expunged, and sunk in oblivion, long ago; comprising a parcel of wet, greasy, filthy things, which are commonly made use of in Burns and Scalds, the bare mention of which is sufficient to shock any man of common sense and feeling; and have consigned myriads of human beings to a premature and miserable death, and which, extraordinary as it must appear, are still employed *daily and hourly*, not merely in

Bark, (the Decoctum Cinchonæ) Linctuses, &c. she could not be prevailed upon to take; and as to food, an abundance of good things were offered in succession, yet she scarcely took enough to keep her alive.—Thus surrounded with difficulties, apparently insurmountable, it struck me, that *Wine*, if the soreness of the mouth would permit, and she could be persuaded to take it, might produce a good effect; an idea which was immediately put in practice, by her taking, in the course of about a week, (sometimes diluted, sometimes alone,) *nearly a quart of sherry*, which she drank with avidity, in preference to every thing else; until she happened to taste some *buttermilk sweetened with treacle*, which she afterwards preferred to wine; indeed, for nearly three weeks, these valuable antiseptics and cordials, might almost be said to be the only nourishments she took.—Powdered Bark, (Pulvis Cinchonæ Flavæ) had been previously added to the flour, in the proportion of an ounce and a half of the former to three of the latter;\* at the time when the

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this town and neighbourhood, but in every part of *Europe*, or rather of *the known World*:+—though more than a year has elapsed since the promulgation of, I believe I may venture to say, a far more efficacious and rational plan of treatment, which must eventually, I humbly conceive, in defiance of all opposition, supersede every other, at present known, or apparently likely to be; for what more can be expected, (miracles having ceased, and dry clean dressings being evidently a *sine qua non*,) than a remedy, which upon other, and, consequently, stronger and better testimony than my own, has triumphantly passed the strictest examination, and proved to be all that was at first asserted, (though not in direct terms) viz. every thing but infallible, if properly and judiciously applied.

This well-known continuance in error, (or rather mal.practice, for as such it will in future be considered, or I am greatly mistaken,) by persons possessing advantages, and occupying stations, either in private practice, or in public charities, where, *a priori*, it might have been least expected, forms the best and only apology, for the frequent repetition of the oblliging expresssions of approbation and sympathy with which (through the inestimable virtues of the remedy, which have unfortunately lain so long dormant) I have been honoured by my correspondents and friends, (particularly those of Mr. Tatham, the Rev. H. Penny, and my friend Mrs. Hyde, who is an honour to her sex, whose praiscs, supposing, for a moment, I could be said to merit them, are Fame;) and from which I have derved more satisfaction and delight than I am able to express.

+ I have lately heard of an instance, I hope it is a solitary one, of a *Surgeon turning Painter*, and, with a brush, besmearing the body of a patient, where it had been scalded, with a mixture of Lime Water, Linseed Oil, and Chalk! !

\* R. Pulv. Cinchonæ Flavæ unciam unam cum Semisse, Similaginis uncias tres—Misce optime.

lotion was prescribed, and was applied to the scalded and now mortified parts, with the same frequency, and in the same manner as the flour alone had been.—The consequence was, an almost immediate and decisive change for the better. The fever began to subside, the discharge from the sores diminished in quantity, and improved in quality; her strength began to return, so as in a little time to enable her to sit upon her mother's knee half-an-hour or an hour daily. By degrees, her appetite for broth, (oranges occasionally) potatoes, &c. returned; and, from this time, the amendment was regular and progressive; and it is worthy of remark that she did not complain of pain in the mucous membrane of the mouth, when she began to take the wine and buttermilk, nearly so much, as she had done when taking the watery and other simples already mentioned.—Such, in short, were the effects of this combined plan of operations, that, in five or six weeks from the time of the accident, every idea of danger had vanished; the condition of the patient improved daily; the mortified parts, and the crusts formed by the union of the matter with the flour, upon the sores where the mortification had *not* taken place, by degrees came away almost spontaneously: and so rapidly was the new skin formed, (as often happens in young subjects after the stopping of mortification) that at the end of seven or eight weeks, calculating from January the 12th, little remained, comparatively of the extensive mischief which had been done, except in the arm-pit, and upon the upper, inner, and tender parts of the corresponding arm and side, which were not quite healed until ten weeks had elapsed from the above mentioned date; and there, and there only, *viz.* in the axilla, (the armpit) was there the smallest appearance of a cicatrix, (the only one I have seen since I adopted the use of flour,) or even roughness of the skin; but merely a slight efflorescence. Yet, so deep and extensive had been the sloughs, and consequent loss of substance, from the axilla and parts adjacent, that it would indeed have been extraordinary if a cicatrix of a

greater or less extent had *not* been formed in that part.\* Nor was the motion of the arm nearly so much impeded when the parts were healed, as I had anticipated, and had reason to expect, *considering the difficulty experienced in applying the dressings, and retaining them in their place*, so as to prevent an adhesion from taking place between the left arm and side; a business which was not accomplished so easily as some may imagine.—It was, therefore, highly gratifying to find, at the expiration of ten or eleven weeks, when, the cure being completed, my attendance was discontinued, that she could raise the arm, slowly, to an angle of about twenty degrees.

The difficulty mentioned above will be easily understood by reflecting upon the relative situation of the sores upon that part of the side nearest to, and including, the axilla; and those upon the inner and under part of the arm, from the elbow to the armpit, and backwards to the shoulder blade; *and the patient's inability of moving the arm, or bearing to have it moved, to such a distance from the side, as to allow a dry powdery substance, such as flour, to be sprinkled, or put between them, from the elbow to the arm-pit; or, supposing it to be so placed, the difficulty of keeping a sufficient portion of it in contact with parts directly opposite to each other, both in situation, and with regard to the effect which must follow from the operation of gravity.*†

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\* I ought to observe, that the cicatrix is extremely superficial compared with those which are almost always the result when the old modes of treatment are put in force.

† “*Shall gravity for me her laws suspend?*”—I answer, No;—Because, if this were done for a single day, or even an hour, ruin and destruction would inevitably ensue,—as far as regards the globe which we inhabit. For so wonderful and admirable is the structure of the universe, and such are the beauty and harmony with which its operations proceed, that if a single law, (gravity e. g.) were to be suspended, (in which case the attraction, or law of cohesion, would, as a matter of course, be suspended also, or become useless,) the whole fabric would be involved in confusion; animals would die through want of air, or be suffocated with smoke or dust; the walls of buildings would give way, through the suspension of those principles (gravitation and cohesion) by which they are at present supported; London, and other large towns, would at once become a heap of ruins, and Chaos come again!

These observations may, perhaps, appear out of place; but may serve to shew,

With a view still more to counteract the rigidity of the muscles, and the contraction of the skin, and by these means to restore the complete action of the limb, the plan which I advised was, that she should move the arm in various and opposite directions, striving to elevate it more and more, at certain times every day.

Not having heard of her from that time (the end of March) to the present, I was agreeably surprised to find, upon seeing her *to-day*, (May 5th, not quite four months since the accident) that she has, in a great measure, recovered the perfect use of the limb, being able to put her hand upon her head without any difficulty, and to move her arm, in every direction, with ease and freedom.—Nor is she, strange as it may appear, marked or disfigured in the smallest degree, any more than if such an accident had never occurred; except on the side near the arm-pit, and there the cicatrix is so superficial, as scarcely to impede the motion of the arm, as already intimated.

Indeed, so very similar is this case to that which is the subject of Mr. Tatham's letters. (see p. 13—15, and 20—21) as to justify me in adopting the language used by him in describing it, and the subsequent appearances after the recovery of his patient; but must content myself with referring to the letters; see above,

There is one passage, however, in his second letter, (p. 20—21) which is so extremely applicable to this case, that, I trust, I shall be excused for transcribing it, however flattering the terms in which it is expressed.—

*“The father and mother of my late patient at first gave up all hopes of their son being spared to them;—then, when life seemed preserved, they could not think of entertaining an idea of the affected parts ever recovering their wonted aspect; but now, when the face and neck of their once disfigured boy is seen in its former natural condition, without SPOT or BLEMISH, you may picture to yourself their senti-*

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in a striking point of view, that THE BENEFICENCE of the Deity, as displayed in the creation of the world, and THE IMMUTABILITY OF THE LAWS BY WHICH IT IS GOVERNED, is equal to his wisdom and other perfections;—and, upon these grounds, will, I trust, be excused.

*ments of satisfaction.*" So strongly have these sentiments been verified in this instance, that their daughter Emma is still considered, though she has five brothers and sisters, as the "*Flower of the Flock.*"

By degrees, the proportion of Bark in the powder used to the sores was lessened, until Flour alone was again applied, and continued to the close.

'Had the above case been treated according to the prescriptions of the old school, there is every reason to believe it would have terminated fatally; but admitting for a moment the possibility of a contrary determination, (an idea which is wholly incompatible with past experience and well known facts,) the confinement would, beyond a doubt have been three or four times the duration of that which actually took place: the sufferings of the patient would also have been aggravated *in a tenfold degree.* But granting for the sake of argument that they had been augmented *two-fold instead of ten,* they would have exceeded all human endurance, and she, or a much stronger person, must have sunk under them. Of the correctness of these positions I have the most entire conviction; the result of a long continued practice, and much reflection upon the subject.

This being the first instance I have met with of a mortification, or even a tendency to it, coming on after the use of Flour as a Remedy in these cases, it may be worth while to inquire, in order to prevent so alarming and dangerous a symptom in future, from what cause it proceeded. After reflecting some time it occurred to me, that it had probably arisen from the treatment the case had undergone before the flour was applied; and from a conversation I have since had with the mother of the child, there is every reason to believe that this opinion is correct. My first question to her was: How long a time elapsed after the accident before the flour was applied? she answered,—"about an hour."—Second, In what manner was this interval employed?—Answer, "*I had some linseed oil at the bottom of a bottle which had been sometime in the house, and thinking it could do no harm I rubbed her with it where she was scalded*

*'till it was all used. I then sent to her father, who was at work at some distance and desired he would send me some more. This took up some time, and when it came I rubbed her with it; but the pain continuing as bad or worse than ever, I sent for Mr. Slack, the druggist, who desired I would have the flour dredger ready, and he would come directly, and when he came he sprinkled the scalded parts plentifully with flour."* Question Third,—How did you proceed in applying the oil? Answer,—“*I dipped a cloth in it, and dabbed her with it where she was scalded.*”

And can it be supposed that all this could be done without injuring and inflaming the excoriated and tender parts? certainly not. That mortification is frequently the consequence of this very injudicious method of treatment, has long been very evident to me: and seems placed beyond a doubt by the event of the following case, the last I intend to introduce into Part III, in which *soft soap* was the substance first used, and was followed by a sudden and unexpected attack of mortification. Of all the articles in common use, there is probably none more preposterous and pernicious than *soft soap*; which is asserting much where such articles as vinegar, oil of turpentine, ice, &c., rank amongst the number.

#### CASE 24.

Communicated by Mr. Jessc.

March 18, 1829. Sarah Vernon, Et. 28. Passing the fire in the kitchen her clothes caught the long handle of a large pan of boiling water, and brought it to the ground. When I saw her the left leg had been scalded on the posterior surface, two thirds of its length from below upwards, and extending round to the inner side of the leg as far as the anterior spine of the tibia; and low down the boiling fluid had operated on the outer side of the foot extensively—the right foot was scalded on its outer surface. I was passing the house at the time, and saw the case within ten minutes from the time of the accident. The patient terrified by the pain she suffered had stripped down her stocking hastily and torn away considerable portions of the cuticle—*soft soap* was then rubbed over the surface,

which still further destroyed the cuticle, and created intense pain; the right foot shared the same fate. When I arrived she was in excessive pain; the soft soap was removed by applying tepid water as quickly as possible, and the limb enveloped for a few seconds in old soft linen to absorb the moisture. Flour was then applied by means of the dredger very copiously, and the limb having been well coated was wrapped up in linen; the right foot was treated in the same way. *She was very much relieved; the foot became easy in ten minutes, and the leg was so far relieved from pain as to be easily borne.* She however complained that the parts which had the cuticle removed were still smarting; at times keenly.—Under these circumstances ten drops of Tinct. Opii were ordered every three hours, and the patient directed to be kept quiet.

19th. She had passed a good night; the limbs were free from pain, except the parts where the cuticle had been removed. Flour was again applied, and as the limbs were free from pain and swelling, and the pulse tranquil, she was assured that all was going on well; the bowels were opened by a dose of Magnes. Sulph.

20th. All doing well; the flour re-applied.

21st. Had a very restless night; intense pain in the limbs came on the last evening, with shivering; pulse 130; the tongue coated, bowels open,—she had taken nothing in the way of food to occasion this alteration. I proceeded to examine the limbs; the whole scalded surface was completely sphacelated, had a brown appearance, and quite insensible to the touch; the surrounding integuments were highly inflamed, and exquisitely painful. The Mist. Cinchonæ with Tinct. Opii and Acid. Sulph. Dilut. was directed every three hours; and an opiate at bed time. The effervescent poultice to the limbs, and to take as much nourishment as she can.

22nd. Pain relieved; had a tolerable night; pulse 120; bowels free:—tongue not quite so much coated; the limbs not quite so much inflamed—the line of demarcation distinct.

23rd. All the symptoms better; pulse 100; sloughs

separating; on the 28th the sloughs came off; the cellular tissue had not suffered so severely as might have been expected; and the granular surface tolerably healthy—The ceratum communis was now applied, and the limbs were bandaged.

30th. All doing well; the cicatization proceeds rapidly; the appetite good; bowels regular. From this date nothing occurred worth notice to prevent the cure, which was completed on the 23rd of April.

JOHN JESSE, Surgeon, F.L.S. S.R.C.C.L.

Since the above case was sent for publication, Mr. Jesse and I have had some conversation, at which time he agreed with me in attributing the attack of mortification to the employment of soft soap in the first instance.

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*With all due respect, I shall now beg leave to ask, whether there be any medicine, drug, or remedy, simple or compound, native or foreign, enumerated in the MATERIA MEDICA, OR CONTAINED IN THE MATERIA MUNDI, (for my opponents shall have ample room to range in) capable of producing, I will not say equally good effects, because this is evidently impossible, but effects which are in the remotest degree, worthy to be compared with those of flour, as described above in part I. and II., and have since been confirmed and established upon the clearest and most incontrovertible testimony, so as to correspond with, for they could scarcely exceed, my expectations, at the origin of the business.\* This task, which will be easily accomplished if it can be done at all, will naturally devolve upon the advocates for the continuance of the old EMPIRICAL SYSTEM: and*

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\* See Part 2, page 11, where the following passage occurs, and not being inserted in all the copies, is here transcribed.

What might be the ideas and sensations of COLUMBUS when his eyes first caught a glimpse of AMERICA, I shall not presume to say, but it is not possible, I humbly conceive, for them to have been more poignant, or of a more pleasing and gratifying description, than mine at that moment.

*this they must either perform in a clear and satisfactory manner, or subject themselves to a charge of a still more serious nature. For what can a reasonable man, I will not say expect, but wish for more, in any case, however urgent, than for a remedy, which, besides being ready when wanted and easily applied, immediately in general, but always speedily, according to the nature and circumstances of the case, removes the pain and abates the inflammation, in a way, to a degree, and with a regularity and certainty which I will venture to say are unparalleled in any other instance?†*

For the correctness of these positions, I beg leave to appeal to the cases which have been published; to which I could add many more if it were necessary. Several have happened under my own roof, and three more have been mentioned to me very lately, and it is very remarkable, that though communications have for many months been pouring in from various quarters, I have not heard of a single instance, extraordinary as it may appear, of its failure. And it would indeed be surprising, more so than

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† It often happens, through a want of care, that the epidermis or cuticle, (sometimes the cutis or skin itself,) is stripped off along with the clothes, or stockings, both in burns and scalds, but especially the latter; greatly aggravating the mischief, and consequently the pain and other inconveniences;—because, *clean and delicate in the extreme as flour is,—nay,—PURER THAN THE DRIVEN SNOW*, yet when the cutis or true skin is removed, or divested of its natural covering, (the cuticle) whatever is applied, must, in a greater or less degree, act as an extraneous body; and it would be irrational to expect that it should then, immediately, or so quickly as it commonly does, remove the pain; but it is consoling, and may and ought to inspire confidence, to know, that in this case also, (indeed the more deplorable the case, and the deeper and more extensive the injury, the greater necessity there is for its use,) flour is infinitely preferable to every thing else, the same directions being observed which have already been given, particular care being taken to sprinkle the flour *equably and cautiously*, so as to avoid injuring or disturbing the muscular fibres by the slightest touch. —To avoid stripping off the skin with the stockings, &c. (*the possibility of which should always be kept in mind*,) the latter should be very carefully loosened at the end most easy of access; and then cut slowly with scissars from top to bottom, or vice versa, so as to prevent such an aggravation of pain and other circumstances.—Other minor points may also require to be explained from time to time, as they may occur.

To shew to what rash expedients persons in violent pain will have recourse, a patient was lately found by a surgeon sitting with her leg and foot, which were scalded, immersed in cold water, in which it had remained between two and three hours.

any thing that has yet occurred respecting it, if, after such a uniform tide of success, it were, all at once, to become prejudicial, or even inert. Such an event, if it were to happen, could only be explained by admitting the interposition of a miracle, either in the one case or the other. What opinion then must be formed of the motives of those surgeons, who, after being in possession of the new method of treatment, (and I can truly say that no pains have been spared in diffusing it) shall continue, in defiance of reason and humanity, *the imbecile system of our ancestors, who might justly plead in its defense, that they were unacquainted with a better; a plea which can no longer be urged?*

As some time may probably elapse before a similar opportunity may occur, I shall avail myself of it, in compliance with a wish expressed by one of my correspondents to be made acquainted with the previous steps and circumstances which led to the practice so frequently and strenuously inculcated. The discussion of this point will lead me back nearly to the time of my first becoming a medical student, when an incident occurred that made an impression upon my mind which is not yet effaced.

F. H. a fellow student, who was varnishing a fishing-rod with *Aqua Fortis* (nitrous acid,) very imprudently by the direction of a joiner, who said he had often seen it done, poured some water into the bottle containing the acid, which instantly burst the bottle, causing a violent explosion, the contents of which flew in all directions, but principally in the faces and eyes, and upon the hands and clothes of F. H. and the joiner, who, as may be supposed, roared out amain, screaming and running about as if deprived of reason. The former on quitting the surgery where the accident happened, ran through a garden into an adjoining field nearly ready for mowing, and I after him, hand passibus aequis, though commonly the reverse when the excitement was at par. The field was separated from the garden by a hedge, over which he leaped with ease, (a feat which he could not have performed at another time, being fat and unwieldy,) and threw himself on his face in the grass, in which posture he lay, (complaining

much of the burning pain in the parts affected,) until the grass had imbibed such a degree of heat from the skin of his face as to feel warm, which induced him to change his situation; by creeping along the grass to one of a cooler temperature, to which his face was again closely and instinctively applied, impelled by the violence of the pain. And in this course he persisted several hours, before he could be prevailed upon to return, and submit to be treated secundum artem, by which I do not mean "*according to skill or art*," but that the usual farrago of drugs and simples, misnamed remedies, or a selection from them, was applied, the effect of which was, and ever will be while they continue to be made use of,—to render the cases as tedious and painful, or nearly so, as if they had been left to nature; but it is consoling to reflect that the period is not far distant, when, in all probability, they will be consigned to their merited oblivion, and their place be supplied by a remedy whose good qualities are such, as to be fully adequate to accomplish every purpose that can reasonably be expected or desired. And the sooner this great desideratum can be obtained, the better, infinitely, will it be for mankind in general, not excepting the members of the profession, (the humane and liberal part of them,) who will then be spared the mortification of witnessing the most acute agonies and sufferings, which it is not in their power to relieve.

Fortunately for me, I was behind F. H. and the joiner when the explosion took place, and, consequently, escaped with much less injury. But, though a student, the inefficacy of the means employed for their relief, (though the best that were at that time known, and the same, with very little difference, as those which still continue in use,) often recurred to my mind.

From that time, nothing worth notice took place in this department, until my appointment, in 1790, as a Surgeon of our infirmary; and, during my continuance in this office (14 years), some of the most serious accidents happened which it has been my lot to witness, (particu-

larly three,\*) which operated powerfully in producing a train of reflections from which I concluded, that the afflictions which these unfortunates were doomed to experience, (*no one being able to alleviate, much less to remove their sufferings,—the only remedy being time and patience,*)—proceeded not so much from the necessity of the ease, and the impossibility of relieving them, as from our not having succeeded in discovering *the true path which would infallibly lead to success, and by which alone their torments could be removed*; an axiom which was then formed, and highly gratifying and consoling to me is the reflection that I have lived to see it in so fair a way of being established.

This was the first step in the proceeding; and taken in connection with past experience, convinced me of the necessity of abandoning, altogether, the erroneous system hitherto pursued, (comprising a variety of wet and greasy applications, the idea of which is sufficient to make any

\* In the year 1800, —— Garforth fell into the fire in an epileptic fit, to which she was subject, and was so much burnt as to linger in dreadful torments several weeks, without my being able to render her any effectual assistance, or even to mitigate the severity of her sufferings.—For at that time, unfortunately, the time of dressing the sores, and for many hours afterward, was a time of misery and torment, unceasing, or nearly so to the patient, and anxiety to the surgeon:—*not as at present under The New Method of Treatment, when pain and anguish are immediately, or very speedily, exchanged for joy and pleasure, and cures are completed in a fifth or sixth part of the time formerly required.*

In two or three years after her decease, her mother, Mrs. Garforth, (who had seen better days) in passing between her bed and the fire, (which were within two feet of each other,) set fire to her gown skirt, which spread rapidly before she was apprized of the perilous situation she was in. For, living alone in a small cottage, and her back being towards the fire when she passed it, she was ignorant of the dreadful accident that had happened, until she became sensible of the heat and pain which it caused. Being 80 years of age, very infirm and poor, she must soon have perished upon the spot, but for a neighbour's child accidentally opening the front door and going in, when the child being terrified by her cries for help, and by the burning spectacle which it saw, ran home in great horror, saying something about the pitiable object it had left, which, though unintelligible in words, was sufficient to convince those who saw and heard it, that something very uncommon must have happened; when some of the family ran to her assistance, just in time to save her from immediate destruction. She was found upon the bed; the fire nearly, but not quite, extinguished. Her back, the nates, thighs, sides, breast, and abdomen were burnt to a cinder, comparatively speaking; yet in this miserable condition she continued about a month.

one shudder, who has either seen or felt their effects, and of adopting a new one of a totally different and opposite character, before any progress towards improvement could be made.

This was the second step.—*And it happened about that time, from pursuing this train of reasoning, that I had occasion to witness the good, or rather, surprising effects of dry powdery applications, such as oatmeal, hair powder, and flour; either alone, or joined with a greater or less proportion of prepared calamine, (Lap. Calam.) in cases of erythema and chronic erisepelas;\* which suggested*

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About the same time, a large factory, six stories high, took fire in one of the lower stories; so that, when the operatives ran down stairs to make their escape, they were driven up again by the torrents of smoke, which met them, with irresistible fury, upon the staircases, into the uppermost stories; at the windows of which they appeared, calling for assistance, which it was not possible to give, or even to attempt, otherwise than by the crowds of spectators assembling in front of the building, with carpets, sheets, &c. spread out to catch the poor sufferers; who, in great numbers, availed themselves of this, the only chance they had of escaping with life, by jumping from the windows of the upper stories, from whence they were conveyed, some with fractured limbs or skulls, others with broken backs, &c., either to the infirmary or to their own homes.—How many perished in the flames could not be ascertained. There is one sentiment, however, in which all will agree, that, hard and unfeeling must have been the heart that could have witnessed such scenes as the above unmoved.—All I can say is, that upon me they made a serious and lasting impression; and happy indeed shall I be if the consequences may prove in the end of a corresponding and durable description.

\* With a view to illustrate and confirm the utility of flour, in cases of erythema and erisepelas, I beg leave to recommend the following case, which has recently occurred, and is selected from many others of less extent and importance, to the attentive perusal of my readers.

P. Conway, at 14, had for some time been afflicted with a cutaneous eruption, extending, more or less, to every part, from the crown of the head to the soles of the feet. The face, neck, breast, body, thighs, and legs, were affected with a dry, scaly eruption, which, in some places, where the itching and smarting were most troublesome, had assumed the appearance of scabs. His general health was such as to enable him to attend as a piece in a factory, and to play with his brothers and sisters, who are ten in number; the father being a widower with eleven children. Having seen the boy accidentally, and being struck with the scaly, florid appearance of his face, (knowing, from experience, that the skin of many other parts of the body must, of course, be in a still more discolored state,) I enquired his address, and afterwards visited him until his recovery was completed.

The amendment was extremely rapid the first two or three weeks, so as to render his nights, which had long been restless and uneasy, comfortable and composed; and the method of treatment was equally simple and efficacious. Flour was applied regularly and plentifully two or three times a day to every part of the body where the eruption appeared; and soap and water occasionally to the hands and face, and once in a week or ten days, so far as cleanliness required, but as seldom as possible, to

*to my mind that applications of the same nature might probably produce equally good effects in those opprobria of the profession, Burns and Scalds, as in the two former; and the more I considered the subject, the more my mind was impressed with the idea, and the more determined I was to*

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*some of the other parts of the body; moisture of every kind, excepting such as may be absolutely necessary for the purpose of cleanliness, being equally injurious in these cases as in Burns and Scalds.*

Many other cases, of a similar kind, might here be detailed, but would be a useless occupation of time, except to observe, that, in the eruptive diseases of young infants, some of which were attended with slight ulcerations, as well as in children and adults of all ages, the use of flour has been found extremely beneficial; not merely of late, but extending to a period of from fifteen to twenty years: and to almost every species of cutaneous eruption; the exanthemata excepted.

The principal inference which I think myself warranted to draw from the facts above recited, (of the correctness of which I am as certain as reiterated experience during a long course of practice can make me,) is, that so far are burns and scalds from being the only complaints for the cure of which flour is peculiarly, if not exclusively adapted, that they form a part only (a most important one no doubt) in a class of diseases, which are as common in their occurrence to every age and class of persons, as they are tedious and difficult of cure, and often prove fatal, or render life miserable, in defiance of the best assistance that can be procured. Yet do they yield, with the greatest facility, in a great majority of instances, to flour, externally applied; which has this additional and important advantage, viz. that of exempting the patient from the disagreeable necessity of using a parcel of disgusting applications (which often precede or accompany the use of sulphur) in the form of liniments, lotions, and ointments, *which are not merely useless, but inadmissible when flour is the remedy employed*—moisture of every kind being prohibited, except occasionally, *but very seldom*, when a little water and soap are used for the purpose of cleanliness.

Now what a striking contrast with respect to purity and comfort do these two methods of treatment afford! And with regard to their comparative safety, I will select from many others, the following instance, which happened some time ago to a clergyman, who had an eruption upon the legs, which had resisted the common modes of treatment, and was advised by his curate to bathe in and drink the sulphureous water at a celebrated watering place in Yorkshire; from whence, after remaining a fortnight, he was conveyed home in a hearse; after much suffering from a difficulty of breathing, and other symptoms of an attack upon the chest.

I must here remark—What an immense quantity of brimstone, in the form of vapour, or fumigations, (which have been so long in fashion, *and seem now about to be revived*) might be consumed in the treatment of a given number of cases of cutaneous eruptions, of the kinds to the cure of which sulphur, in some form or other, is imagined by some to be indispensable; without producing a tenth part of the benefit which would have been produced by flour, if properly and judiciously applied; yet I do not recollect a single instance, extraordinary as it may appear, in which the external employment of brimstone was attended with any decided advantage to the patient; *and there are few articles in the materia medica more offensive to the senses.* To what cause, then, must we attribute the influence which it has so long maintained in the opinion of the profession and the public?—The only one that occurs to me is, that it has had no rival or competitor that could advance or support a real or well founded claim to a preference; *a plea which cannot now be urged.*

*try the experiment in the first instance that might happen. At length it luckily occurred to my mind, that flour alone, if it should prove upon trial to possess those remedial virtues and properties which I had fondly anticipated, (and which have been so amply confirmed by subsequent experience,) would infinitely surpass every thing else in one most important respect; viz. that of being always ready, whenever and wherever it could be wanted. And long and anxiously did I wait for an opportunity of putting it to the test; so sanguine were my expectations of the favourable result of such a trial, if fairly and properly made.*

Such were some of my anticipations and reasonings.

—The event is known.

At the time when the above cases and remarks were ready for the press, I received a letter from my friend and correspondent Mr. Tatham, which is of too much importance and value, in every point of view, and the time when I may be able to resume the pen too uncertain, to be omitted on the present occasion. The following is a copy.

“ *Kendal, June 4th, 1829.*

“ Dear Dr.

“ It gives me great pleasure to hear from you, and to know that you have received, from various quarters, further communications relative to your incomparable plan of treating burns and scalds, which, I am sure, must have afforded the greatest satisfaction to all who have given it a patient and fair trial. I am somewhat astonished, that, since it was first made known to the public, we have not seen more cases of its efficacy in the journals and papers which have communicated accounts of serious accidents from heat, where the old applications, many of which are useless, *and often most injurious*, were used in their treatment without success. This may, in a great measure, be attributed to a sceptical feeling with many as to the use of the flour, arising from its simplicity as a remedy; but I am certain, that were it but had recourse to once in a suitable way, it would, in a second case, be looked to with

full faith and delight. *The manner in which it acts upon the feelings of the patient is so comfortable and soothing, that the dread of suffering and incessant trouble which used to be the constant accompaniments of all scalds, is quite removed from my mind whenever I am sent for now to attend upon them.*

“ Since I last had the pleasure of writing to you, several minor cases have come under my attention, which, it is hardly necessary to say, have all yielded, without opposition, to the flour; and with the most satisfactory result.—The three following, one of which was treated by a lady, and the other two by myself, I now beg to state to you, as confirming our previous observations.

CASE 1st.—“ About six months ago, a child, living at a village a few miles from this town, scalded itself sadly over the neck and breast, by pulling upon it some hot coffee. The pain and torture were very severe, giving rise to much crying on the child’s part, and to great mental suffering on the part of the mother, who procured, as quickly as possible, some cotton-wool,\* which had been

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\* Even supposing for a moment the remedial virtues of Flour to be rivalled by those which Cotton is supposed by some to possess, (*though there is no more comparison than between a taper and the Sun,*) yet there is another insuperable objection to the latter, *i. e.* it would not be possible to procure it immediately, on the spur of the occasion, *in more than one case in a thousand*, taking the average of different latitudes and longitudes. This is not only my own opinion, but that of cotton merchants and others whom I have consulted, and is quite sufficient to set this question (it is only surprising it could ever be considered as such,) at rest. For if this would be the case in places where cotton forms the *staple commodity*, how infinitely would the difficulty be increased in such places as Liverpool, Birmingham, Sheffield, and other large towns, in every possible situation and direction; besides innumerable small towns, villages, and solitary places, not merely in this country, and in Europe, **BUT IN EVERY QUARTER OF THE GLOBE!**

Perhaps it may be said that every individual or family might keep a stock of cotton in readiness for any emergency that may happen. Supposing this to be done, how very common it is for such things to be mislaid when wanted!—and how long, supposing it to be begun, would such a custom be continued?—And after all, as I have already observed, there is no more comparison between the two in point of efficacy, *than between a taper and the Sun.*

Thus it appears that in this, and other instances where attempts have been made to supersede the use of Flour as a remedy in these cases, the effect has proved the reverse of that which was intended,—in other words, they have caused it to recoil with tenfold force, and to rise still higher in the estimation of every person capable of forming a correct judgment upon this or any other subject.—For why should we search for a substitute for a remedy which requires none, and if it did, could not be obtained?

used before in this village, as well as frequently in many other places, and covered the affected parts with it so as to completely exclude the air; *but to little purpose, for the uneasiness remained the same*; so much so, indeed, as to induce her to apply to the lady who gave me particulars, to see if she could do any thing to alleviate the pain. Mrs. C. had read our cases, and being somewhat of an amateur in medicine, and often really of use in giving advice in the absence of medical men, had determined to try the flour whenever the next burn or scald might take place. Accordingly, she attended on the sufferer with promptness, and used the flour-dredger very actively, in dusting any places where redness or blisters were to be seen. *By this plan, the abatement of the pain was almost immediate, and the astonishment of the by-standers very great, who expressed much gratification at what they saw, and appeared relieved from considerable anxiety.* Instructions were left to keep the parts entirely covered with the flour, and to use nothing whatever further. Little or no fever was apparent, nor was there pain so as to interrupt sleep; and whenever there was the least increase of heat, more dredging was practised, which soon removed it. In due time the incrustations peeled off, and left the skin underneath smooth and entire. In short, the lady assured me that the cure was speedy and complete—quite confirming the good effects of the new plan.

CASE 2nd.—“In April last, whilst I was visiting an old lady who resides not far from Milnthorp, a messenger arrived desiring me to go and see a poor child, about four years of age, which had, a few hours before, been violently scalded, from the knee to the ankle of the left leg, with the hot fat of bacon from a frying-pan. Scraped potatoes had been placed over the parts—that were in several places much blistered—though without any benefit, as the pain and heat remained unabated. Having removed the useless covering, I forthwith dashed flour plentifully over the whole leg; *and instantly the child gave up crying, and fell into a sound sleep, which lasted some hours.*

The usual directions were given relative to the renewal of

the remedy whenever pain should be felt, or any part appear moist; and, I believe, they were fully observed; for, at my subsequent visit, when in the neighbourhood, *the firm and compact state of the application covering all the injured parts, was very satisfactory.* The suffering, which it was expected by the relatives would be very great, was not worth naming, and the comfort and contentment of the little patient surprised the neighbours. When I last called the recovery was fast advancing—many of the incrustations having fallen off, exposing a clear and equal surface; which, in the cases I had hitherto noticed, was so peculiar to this excellent mode of cure, and so gratifying to all concerned. What, at first sight, seemed untoward, and likely to be productive of sad consequences from severe inflammation and ulceration, turned out admirably—unaccompanied with distress, marks, or length of time. The dredger will be esteemed in this village now, more for its sanative than culinary properties, and will, I do not fear, be readily grasped at in future accidents of the above nature.

CASE 3rd.—“On the 20th of last month, about noon, I was hastily sent for, to a respectable tobacconist’s, to see a little girl, about two and a half years old, who had upset a basin of hot porridge over a large portion of her breast and neck. The crying and uneasiness were, as usual, great; and, by way of increasing them, though, of course, unknowingly, the parents had, before my arrival, copiously applied spirits of turpentine, which I carefully washed off, and, to the surprise of the attendants, supplied its place with flour, profusely spread on. As in the former cases, the pain immediately vanished, and tranquillity, with repose, supervened, to the delight of all present. No medicine, except an effervescent mixture, pro forma, was sent, nor, indeed, was any thing further required, as there was neither fever, pain, nor inflammation. The dredger was used whenever any part required covering, and was looked at with pleasure by the little girl, who, without doubt, was spared much suffering by its use. It was pleasing to see a perfect freedom from that irritability which is—or rather

nsed to be—so difficult to contend with in similar cases, where every thing that approaches the patient is looked at with uncommon suspicion. I called occasionally to see that all continued to proceed well, and always found the little creature cheerful and happy—sometimes walking about the door of the house, looking rather droll from the white covering she had received. When I last saw her, the parts which were denuded wore the good appearance noticed in the preceding cases, being quite free from ulceration, or any disagreeable look whatever.

*I never supposed it possible that any accident, such as the above, could have been attended with so little inconvenience as this was; for I could not learn that any crying or expression of pain took place after my first visit.*

“ You will, I think, agree with me, that the above cases go far in establishing our reliance upon the new and simple plan of overcoming the sad effects of burns and scalds. Of burns I have not had a case of a serious nature since I knew of the flour; so that I cannot speak strongly of its value in their cure; but it is not so with regard to scalds, for *I can affirm, that, in their removal, it possesses properties which are invaluable*, whatever they may be—whether of a highly conducting power, as respects caloric, or of an exclusive description with regard to atmospheric air.

*This is no anceps remedium—no discovery relative to which doubt can exist as to its durability; for its merit is founded upon facts truly forcible; and will, in due time, be rightly esteemed by all who can appreciate the pleasure of relieving!\**

“ I rejoice at being able to send you this communication. “ *Hic scripsi non otii abundantia<sup>^</sup>, sed amoris erga te.*”

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\* It gives me peculiar pleasure to observe a similarity of sentiment on this and various occasions, between one whom I am proud and happy to call my friend, and myself. The resemblance here consists in my having described the pleasure which he terms “*the pleasure of relieving!*”—in different words, but conveying exactly the same meaning,—viz.—“*The luxury of doing good.*”

I always feel happy in having seen your first letter to the Lancet. I heartily wish you better health; and am,

Dear Dr.,

Ever yours sincerely,

EDMUND TATHAM."

"Dr. Ward, Manchester."

These observations are equally reasonable and just; for though a year and a half have nearly elapsed since the attention of the public was first called to the subject, (see PART I and II, and "The Lancet" for May 10, 1828,) yet, considering the frequency of these distressing accidents, and the favourable attention, (though there are many exceptions I am sorry to say,) which the promulgation of the doctrine has, upon the whole, excited, as appears from the clear and decisive proofs of the efficacy of the plan which have since been published by surgeons, and others of undoubted credit; and, lastly, the commendations which have been bestowed upon the individual who was so fortunate as to discover the *remedial properties* of this valuable, or rather invaluable production, and to give them publicity.\* These arguments, I say, if duly weighed, will, I think, induce every one to join in the astonishment expressed by Mr. Tatham—"that we have not seen more cases of the efficacy of flour in the journals and papers which have communicated accounts of serious accidents from *heat*, where the old applications, many of which are useless, and often most injurious, were used in their treatment *without success*. This may, in a great measure, be attributed (says Mr. T.) to a sceptical feeling with many as to the use of the flour, arising from its simplicity as a reme-

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\* WHEAT may justly be placed at the head of the vegetable tribe, with regard to its usefulness and consequence to man; and, accordingly, it has been furnished by the great AUTHOR OF NATURE with a greater number, and much longer roots, than the other species of the same genus. This enables us to explain the reason why it is so often found to sustain less injury in a long dry season, than the latter; besides the influence which this peculiar and more perfect structure has in strengthening and enriching the plant; and rendering its fruit more complete and perfect.—See an ingenious paper by Dr. A. Hunter, accompanied with engravings, in the Agricultural Magazine, for 1825.

dy; but I am certain, (continues lie) that were it but had recourse to once in a suitable way, it would, in a second case, be looked to with full faith and delight."

My excellent and philanthropic friend may, however, rest assured, that, though its progress may for a time be retarded by prejudice, and other motives of a still more unworthy kind, *yet am I fully convinced that no earthly power can now prevent the completion and final establishment of the plan, upon a basis (that of general utility) too firm and equitable for human efforts to counteract, much less overthrow.*

I have further to remark, that I agree perfectly with Mr. T. that the cases which he has communicated "go far in establishing the efficacy of the new and simple plan of overcoming the sad effects of burns and scalds."—I also think that the remedy acts in both the ways he has described, particularly the first of the two; the immediate consequence of which is the reduction or decrease of inflammatory action in the blood vessels, and the increase or restoration of the natural action in the absorbents of the parts affected: both of which processes must necessarily precede the return of the parts affected to the state they were in before the accident.—But I have not time to enlarge upon this branch of the subject at present.

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On returning home after an absence of twelve days, I found a letter from a friend, the contents of which surprised me not a little. The purport of it is as follows:—

"Manchester, June 20th, 1829.

"My dear Doctor,

"Whilst in London, I observed in the *Morning Post*, of May 6th, 1829, a flourishing description of Mr. ——'s\* treatment of Burns and Scalds, said to be taken from the *Monthly Gazette of Health*. Having learnt through your politeness the mode of your treatment in such cases, I was much surprised to find that the great praise which was bestowed upon Mr. —— arose from the simplicity of

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\* The name of the writer is here suppressed from motives of delicacy.

the article used, and from its being always easy to procure—viz :—Flour.

“ Now it appears to me not quite the thing, that your great attention to this subject, and merit in the early, and I believe first application of the same article, should have been so entirely overlooked, and that the reputation of so doing should be ascribed to any other individual of the profession.—With kindest regards, believe me,

Very truly Your's,

RICHARD KAY.”

“ *Dr. Ward, Manchester.*”

“ BURNS AND SCALDS.”

(“ *From the Gazette of Health.*”)

“ Mr. ———, a scientific surgeon of London, states, in a communication made to Mr. North, that he has found flour (of wheat) far more beneficial than any other topical application, in cases of burns and scalds. He has uniformly found it in such accidents, speedily to allay pain and inflammation, and to effect a cure, by hastening the process of incrustation by uniting with the discharge. The peculiar gluten which exists in flour, evidently of an animal nature,\* Mr. ——— thinks, by hastening the regeneration of the scarf skin, protects the rete mucosum and true skin.

“ When flour has formed the artificial incrustation, the further application of it becomes superfluous, which is perceived by its rolling off. Mr. ——— has also found this application beneficial in a case of irritative superficial ulcerations, with an ichorous discharge. The patient was only three months old, and the ulcers were situated on the lips, chin, groin, and the inside of the right leg to the toes.—The result was most satisfactory.—Some parts healed in a few hours, and the

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\* Other authority will be expected before an opinion so contrary to that which is generally received can be admitted.

whole in three or four days. Mr. —— has added some cases on burns and scalds, *in which this treatment seemed to have acted as a charm*; the mode of applying it consisted only in occasionally sprinkling it over the injured or ulcerated parts, till the incrustation is effected, and the surface becomes dry. The relation of the cases will afford no practical information.

“Attention, of course, must be paid to the intestinal canal, and state of the nervous and sanguiferous systems.”

“*From the Morning Post, dated May 6th, 1829.*”

I must in this place observe, that the above mentioned cases and observations of Mr. ——, so far as they merit attention, *instead of weakening or contradicting the facts and arguments which I have advanced, have a decided tendency to strengthen and confirm them.* I must add, however, that after examining the Medical Gazette for April and May, 1829, the only mention that is made, or notice taken, of Mr. —— or his communication, that I can find, is in the number for April 11th, 1829; and is as follows.

“*Cases of Burns and Scalds, by —— ——, Esq. Surgeon.*

“Mr. —— thinks the utility of the Flour in such cases depends, in some measure, on the gluten which it contains, forming a covering which protects the surface of the cutis, and checks inordinate discharge.

“*The manner of applying it is by dusting the parts with the “dredger,” by which means all handling and rough treatment is avoided.*

“*Three cases are detailed: the two first were scalds of no considerable extent, and the patients did well: the third was a severe burn in an elderly lady, whose clothes had caught fire: the flour gave relief to her sufferings, but she died on the fifth day.*”

Thus verifying my prediction, as expressed in the following passage, at the origin of the discovery.—“*From hence*

*also I infer, that even in cases where all hope, or at least expectation, of the patient's recovery must be futile; the speedy, free, and plentiful application of flour to the burned or scalded parts, will I trust, indeed I have no doubt, SMOOTH THE PASSAGE OF THESE UNFORTUNATE AND MISERABLE OBJECTS TO THE GRAVE."—See part 1, p. 7.*

With regard to priority, it will be sufficient to observe, that the first part of my Treatise on Burns and Scalds, was published, and is dated in April, 1828, and appeared in "THE LANCET," for May 10, 1828. A copy was also sent, at the same time as that to "The Lancet," to the Editors of the "Medical Gazette," and for a similar reason,—that of giving immediate publicity to the discovery announced in PART I, partly with a view to the relief of the afflicted; and that others might have an opportunity of putting to the test, a mode of practice which I had found immediately and decisively successful, and infinitely preferable to every other. Why it was overlooked and no extracts made from it, by the Editors of the last mentioned work, is best known to themselves.

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Considering how much persons of all ranks, particularly the middle and lower, are at a loss in what manner to proceed upon the sudden occurrence of accidents of this nature, and how liable to be misled by improper, though well meant advice, I drew up, some time ago, a few plain directions for the use of flour in Burns and Scalds, which were printed upon a card, and in a type of sufficient magnitude to admit of being easily read, and am happy to say

that the good which they have done has far exceeded my expectations.

In several instances, (one of which happened late at night, and was of a most alarming and dangerous description, where two near relatives of the patient were dreadfully burnt in endeavouring to extinguish the fire *with their hands,\**) one or more of the individuals present had either seen or heard of the printed directions, and by availing themselves of them, the patients recovered in a comparatively short space of time, and with so little pain and inconvenience as agreeably surprised all the parties concerned, who have since expressed themselves, some personally, others by notes and messages, in terms equally gratifying and complimentary.—And I can truly say, that scarcely a day passes without occurrences and communications of a similar kind taking place,—from the faculty as well as others; so as to hold out a more encouraging prospect,—if not of the immediate, of the ultimate success of the measure, and this at no very distant period.

Many of the cards (which are sold at a penny each or fourteen for a shilling, *to prevent their being destroyed,*) have been sent abroad, and to different parts of the British Dominions.—A great number have also been circulated in this town and neighbourhood; some of which have found their way to Wales, Ireland, Frankfort, Leipsic, and I believe to Scotland.—A few have also been placed in conspicuous situations (*this I hail as a happy omen, and hope the example may be generally followed,*) in one or more factories,† and distributed among the operatives; where, (i. e. in Factories and other public buildings,) they are calculated to operate powerfully as well as beneficially in inculcating upon a large scale, the necessity of great care and caution in the use of fire and scalding liquids: *but above all, in furnishing proper instructions when accidents do happen, in what manner to*

\* See Case 20, page 37.

† In some factories from a hundred to a thousand artizans are, or at least were, employed daily.

proceed without loss of time in rendering such assistance as the case may require or admit of.—Might they not also be equally useful in Breweries,\* Soaperies, Vitriol Works, and places where Candles, Gunpowder, and other combustibles are manufactured; and in a proportionate degree in Schools and private Families?—For however extensively a work upon any given subject may be circulated through the medium of the press, yet for the information it contains to become generally known and diffused among the middle and lower classes, some such plan as that proposed appears to be indispensable.

## DIRECTIONS FOR THE USE OF FLOUR IN BURNS AND SCALDS.

Remove the clothes from the injured parts as soon as possible, (care being taken to avoid bursting the blisters)

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\* A melancholy accident lately occurred in a brewery, at Bolton.—Mrs. \_\_\_\_\_ fell backwards into a Mash Tub of scalding liquor, and died in a few days.

Not long ago the death of a man was recorded in the papers, who fell into a vessel of boiling oil.—He died the same day.

“A Brewer’s boy fell into a vat of boiling liquor. The effects produced upon his frame were described as terrific, and his death considered inevitable.—He was immediately put upon a course of flour.—The consequence was that he recovered, in a manner, and with a quickness, that was equally unexpected and satisfactory. See page 36.

The two following are taken from a Manchester Paper. “Diabolical Outrage.—As Thomas Leigh was passing through Timber-street, some diabolical miscreant threw into his face a quantity of oil of vitriol, by which he was shockingly burnt and disfigured, and it is feared that his eye sight will be lost. A reward of £50 has been offered for the discovery of the offender.”

Other outrages of the same kind have been committed, extraordinary as it must appear: and they are only introduced here with the view of pointing out the peculiar expediency of immediately applying a thick coating of flour, and of repeating it with more than the usual frequency.

“ Shocking accident.—On Saturday last, a girl at 11, while lighting a fire, incantiously suffered her clothes to catch fire. She was instantly enveloped in flames, and in this state ran into the street. A man who was passing had his hand severely burnt in his hrmanc endeavours to save the unfortunate girl. She lingered in extreme agony several hours, but died in the course of the day, at the Infirmary.”

However familiar, from their frequency, these and similar accidents may appear in this country, yet when properly considered, they must be allowed to be attended with very serious consequences. And it is equally clear to my mind, that they might be rendered much less frequent as well as fatal, if judicious and proper methods of proceeding were enforced.

then take a common KITCHEN DREDGER, and sprinkle the parts affected with flour, either till the pain subsides, or so much flour is applied as to form a defence or covering from a quarter to half an inch in thickness. *If the holes in the lid of the dredger be too small, or not so numerous as to allow the flour to escape freely, a table spoon, or the fingers, may then be used to sprinkle the flour equally and plentifully upon the burnt or sealed parts.* If the pain be removed by the flour, (which has hitherto been the effect in every instance,) the patient may then sleep, or take some mild nourishment, *and as long as the pain is easy nothing more must be done.* When it returns, more flour must be applied to the painful parts, *without disturbing those that are easy;* and this method must be continued as long as is necessary. In slight cases a few days will suffice to effect a cure. In serious and alarming ones, it will often be necessary to continue applying the flour a fortnight or three weeks, or probably longer.

If the pain do not soon yield after applying a coating of flour of a proper thickness, (see above) the dredging or sprinkling must be continued, without regard to the quantity of flour used, either till ease be obtained, or the quantity be such as, if increased, would be inconvenient from its weight; then wait a while; and at the second and succeeding dredgings or sprinklings, the uppermost *loose* portions of flour, (if any) may be removed before more is put on. A piece of old linen must then be laid over the flour, and such bed clothes or other coverings as are necessary to keep the patient warm, *but not too hot.*—If the head or face be burnt or sealed, a silk handkerchief forms a proper covering to keep the flour in its place.

*N. B. In accidents of this kind happening to children, (young infants more particularly,) the use of flour has been found to produce ease and sleep almost immediately, after other means had been tried in vain.*

The time does not appear to be arrived, otherwise the influence in promoting the universal adoption of this practice, (*for this is the point to be aimed at,*) would be greatly increased by the united exertions of individuals in this and other countries, joining in the expense of printing and distributing the cards, *to the poor gratuitously*, and to others at such a moderate price as, besides defraying the expense, (*which would be trifling*) and conferring an obligation of no common kind, upon the community at large, would allow a small profit, which if devoted to this purpose, and assisted by very moderate subscriptions, from such as may be disposed to assist in the design, would form the ground work of an association *calculated to transmit the great and peculiar advantages to which it must inevitably give rise*, to the latest posterity.

But this intimation is given more as the outline of a plan which may possibly take place at some future time, than as being likely *to be adopted soon*.

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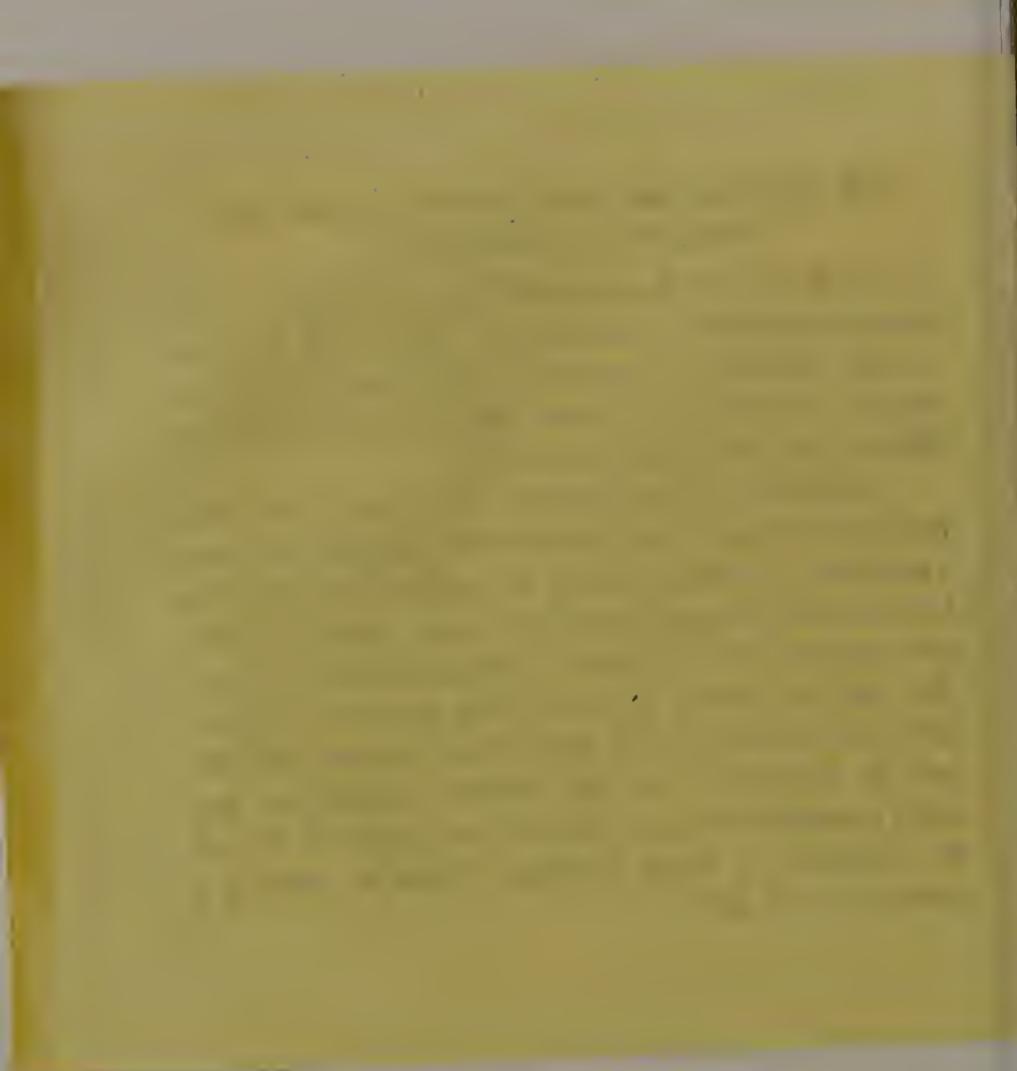
It has been intimated to me by a correspondent, and often repeated in conversation, that from the tendency of the new plan to simplify and facilitate the practice, it may probably be opposed by the faculty:—and certainly one great advantage would be lost if the remedy, (*flour*) were not instantly applied by any competent person who may happen to be present, without waiting for the arrival of a Surgeon.—This question, therefore, must now be discussed,—viz.—*Will the general adoption of the New System (for to such an event, if I have any claim to prescience, may we confidently look forward,) increase or diminish, the pecuniary interest of the profession?*

To this I reply, and am prepared to prove, that the effect will be exactly the reverse of what is here supposed; i. e. that it will in all probability, greatly increase and promote that interest.—But supposing, for argument's sake, that it were likely to produce a contrary effect, still I maintain and am ready to

*(The following lines being omitted, between pages  
74 and 75, are inserted here.)*

“prove that if it be for the good of the community that the new system should be adopted,—*a point which I take to be fully established*)—it ought not, and I trust will not be rejected, either for the reason alledged, or any other so illiberal, and consequently untenable.

In support of these opinions, I observe in the first place, that this never was, or could be considered as either a profitable or pleasant branch of practice, but quite the reverse, *except to empirics and old women*, some of whom are supposed to have made a tolerable harvest of it.— And who can wonder, if, after having consulted surgeons and others of repute in the profession, (*who we will here call the Regulars,*) not only without experiencing any relief or mitigation of the sufferings they endured, but on the contrary, in many instances, (*from the want of a remedy of real and*”



acknowledged efficacy, an aggravation of the pain and misery they were doomed to undergo.

*In cases so pitiable and tormenting, the wonder would be if they did not, as a last resource, consult the irregulars; who are ever ready to promise every thing that persons so circumstanced could desire; which, if they could perform, they would merit the confidence reposed in them, and I for one, would not attempt to deprive them of the profit and popularity they so undeservedly and unjustly acquire.*

From these and other causes which remain to be mentioned, I believe I may safely assert, that the gentlemen of the profession, (including physicians, surgeons, and apothecaries) *have not, upon the average, received more than a pound or two a year each, from this branch of practice.*—For we must recollect, that it is by no means rare for medical men, in good practice, to be several years in succession, without meeting with, or being consulted in, a single case of the kinds here treated of.\* For it has,

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\* Various causes operate in producing this paucity of cases to vast numbers of individuals. 1st. Most of the bad cases are taken to the hospitals and other public charities. 2nd. Not unfrequently druggists are sent for on such occasions, or applied to at their shops for such articles as are in vogue. 3rd. Every mechanic and old woman, however uninformed in other respects, is acquainted with one or more—“*never-failing remedies;*” as they are called, and are ever ready to give their advice and assistance; by whom (the latter I mean) they are sometimes rubbed upon the parts affected, with a degree of roughness and violence which would be pronounced cruel, if the patient were not one of the human, *but the brute species:* a sight which I have more than once seen.

The reader is desired to reflect a moment upon the striking contrast which is here, and elsewhere, exhibited, (see above *passim*) between the **NEW, OR RATIONAL AND SCIENTIFIC SYSTEM, and the old empirical one.**—For, in addition to the benign influence of the new remedy, which is such as to convert “the tears and groans of the patient into instant joy and pleasure, and the anxiety and anguish of the spectators into satisfaction and delight”—terms employed—not so much by myself as by others, whose testimony alone would satisfy the most scrupulous judge and jury in a court of justice.

Another point to which I wish to call his attention, is,—that the new remedy is not merely clean,—but pure and demulcent; *as the mode of applying it is mild and tender;*—not requiring, but forbidding, *that the skin, which, in this state, is irritable in the extreme, and exquisitely sensible,*—should be so much as touched, in the dredging or sprinkling, which is all that is required to be done:—except, that when the serum contained in the blisters, (instead of being absorbed, which sometimes happens when improper things are applied at first, or some time is allowed to pass before the proper one,—viz. flour, is applied,)—is converted into pus; which is easily ascertained by the appearance and the touch, the point of a needle, a pin, or a lancet,

unfortunately, been one of those cases in which every person considered him or herself in possession of some “never-failing specific, or infallible remedy,” either in the form of cold water, oil of turpentine, vinegar, ice, chalk, tallow, goose-grease, scraped potatoes, linseed oil and poultices, lime-water, with or without linseed oil, or some of this confused medley mixed together: all of which agreed in one respect,—that of never relieving, much less curing, the tortures which the patients were doomed to undergo.—But whatever may be the causes, the facts are indisputable.—And if the above representation be just, (*and I am confident it is not overcharged*) the profits cannot be considered, by the members of a liberal profession, as deserving a moment’s consideration, were they five times the above amount, *when put in competition with the glaring defects, and shocking abuses, which prevail at present, and the reform which is so much wanted in this department of surgery,—not only by the parties principally aggrieved,—viz.—those labouring, unhappily, under the consequences proceeding from fire, scalding liquids, &c.,—but by every humane and well-informed person in the three kingdoms, who considers the subject.* And unprofitable in the extreme will the NEW,—or what I shall beg leave to call—THE SCIENTIFIC SYSTEM,—(in contradistinction to the old empirical one,)—be, if in this respect only it should prove deficient:—*for in every other it will, I will venture to say, be found infinitely superior to its predecessor.*—Yet, will it be believed, that there are members of a liberal profession, graduates of universities and colleges, who avow themselves to be advocates for the continuance of a system so disgraceful as that which has been exposed?—or—which is pretty much the same—who neglect or oppose

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should be gently passed through the dead skin, in the most depending part, so as to let out the matter; when flour must be applied as before; and, in a few days, or a week, the dead skin will become loose and peel off, and the skin underneath be found healed, and quite smooth, without mark or blemish; except in particular situations, as under the arms, &c.,—or where great and unusual mischief has been sustained, from the severity or long-continued action of the agent.

the introduction of a plan resting upon such a foundation as that which is here proposed, and supported by such a multitude of well-known and established facts as are now, and have been long, (*nearly two years*) before the public?—Forbid it humanity!—Certainly, those who shall continue in the old track, will do well to consider—whether they would be acquitted by a jury, supposing death to ensue from accidents of this nature, upon *sufficient* proof being given, that the most approved method of treatment had *not* been practised?

These are serious questions, and, in an appeal to the members of a liberal profession, I would willingly hope, unnecessary.—“The luxury of doing good”—will be their chief consideration.—And as to those with whom self-interest is the *primum mobile*,—let us not waste a thought upon them.

So much for the first question regarding *the pecuniary interest* of the profession.

*But there are other interests of equal, if not greater importance, in every point of view, which must now be discussed: viz.—those of Humanity, and the Public, and the Honour and Credit of the Profession; all of which are involved in the issue.*

Having often had occasion to express my sentiments upon this part of the subject, it will not be expected that I should add much to what has been already said,—to which I must beg leave to refer.

The difficulty indeed consists—not in being able to adduce convincing and satisfactory arguments, but in selecting from the multiplicity and superfluity which every where abound, such as are best adapted to answer the intended purpose, without being tedious or disgusting, either from repetition, or the nature of the evidence which they disclose, and bring to light.

These form the next, or 2nd Question.—*viz.—Will the interests* of humanity, those of the public, and the honour and dignity of the profession, be injured, or benefited, by the general introduction and reception, of the New

method of treating Burns and Scalds, and Cutaneous Eruptions of various kinds?

Now if it be prov'd and admitted that the interests of humanity will be benefited, which appears to me from the arguments already advanced, to be *a self evident proposition*, as clear as the sun at noon-day;—it will follow of course, that the interests of the public, and those of the profession, must of necessity be benefited also,—so intimately and inseparably, in my mind, are they united and connected with each other, that they must stand or fall together; and consequently, the same facts and arguments being alike applicable to all, will bring the discussion sooner to a close.—These, requiring more time to arrange than I can conveniently spare at present, will perhaps have more the appearance of fragments, than regular propositions, from which certain inferences may be drawn.—But the effect will be the same;—as nothing will be admitted upon doubtful authority, or without considering its immediate and remote consequences.

A cursory view of the advantages and disadvantages of the two systems will enable us at once to ascertain, (*if this be still doubtful*) their comparative value; and to judge whether an alteration, or reform, is, or is not, necessary? If this be decided in the affirmative, another question will then arise, viz:—Is there any other remedy or system,—I will not say better,—but so well adapted to supply the deficiencies, and to occupy the place of the absurd modes of treatment which have hitherto, in defiance of reason and common sense, prevailed?

After the undoubted and demonstrable proofs which have appeared in almost every page, (*see above passim*,) of the vast superiority and excellence of the new, and only rational system, which are such as to set all comparison at defiance, it is reasonable to infer, that an immediate and complete change or alteration is absolutely necessary, and ought to be universally adopted. 2. That there is no other remedy at present known, or likely to be I humbly conceive, for the complaints here treated of, that has the

most distant pretension to be compared, or placed in competition with FLOUR; and consequently, that it alone is entitled to the good opinion and confidence of the public.

Such a reform, if adopted from a conviction of its propriety and necessity, cannot fail to produce many important and beneficial consequences, exclusive of those already mentioned.—1.—By taking a great majority of the cases, those of a serious and alarming description, at least, (for as to those which are slight, it is of little consequence by whom they are treated, *if the proper remedy be applied, in a proper manner, immediately after the accident;*) out of the hands of mere pretenders to knowledge, and placing them, where they ought to be, under the care of regular practitioners; provided, they will give them that attention which they evidently require: if not, they cannot expect, or wish, to derive either pleasure or profit from them. The consequence will be, that empiricism will still flourish; the profession be disgraced, and the public at large, particularly the sufferers from the two causes so often mentioned, will sustain an irreparable loss, and have great reason to complain of such improper and unfeeling conduct on the part of those, who by acting differently, would be entitled to a just and proper remuneration for their services.—Not to mention the injury, they will suffer in losing the gratification arising from “the luxury of doing good,” which would much more than compensate for any trifling loss, should it be sustained, from the introduction of flour into general practice, which is a position by no means proved.—And can it for a moment be supposed,—that after applying a remedy, by which the *tears and groans* of the patient are *changed into joy*,—and the *anxiety and anguish* of the spectators, not merely into surprise, “*but astonishment and delight;*”—can it, I say, be supposed, that the patients or their friends will be unwilling to reward, in proportion to their ability, services which have not merely been promised, *but actually performed*, and to an extent which could scarcely be anticipated?—forbid it gratitude— forbid it justice!—And is it not more satisfactory, to a liberal mind, to be paid for real and acknowledged services,

than for a parcel of lotions, salves, and liniments, of almost every description, save and except that which they ought to be; and are indeed of no use—but to the prescriber?—Besides, every one capable of judging must be aware, that this method of rewarding the services of professional men, is every day becoming more and more in vogue, and will be equally advantageous in the end to all parties.

2.—By the effect which, sooner or later, it must necessarily produce, of putting an end to, and destroying, root and branch, an ignorant, random, method of proceeding, in a department of the profession, of daily and hourly occurrence, which has long been a disgrace and a reproach to men who have the smallest pretensions to knowledge or science.

3. By the agency which it cannot fail to have, in a greater or less degree, in lessening the trade and influence of empiricism,—which reflects great discredit upon this country;—*that men who are totally ignorant of the science they profess, are allowed to advertise, and puff off as infallible remedies, drugs and nostrums of the most pernicious tendency, either themselves, or by their emissaries, who are paid for the drudgery*; by which means, false hopes are held out to persons suffering under complaints and maladies of the most painful and dangerous descriptions, who ought to be protected from such fraud and imposture, being persons chiefly in the lower ranks of life, who know no better than to believe such shameful misrepresentations, and an unfair advantage is thus taken of their credulity:—a system which is in the end, from the loss of life with which it is attended, a thousand times more injurious to the countries where it is permitted, than could be counterbalanced by the profit arising from the duty upon the advertisements—*were it fifty times its present amount!* Let us, therefore, hope, that this national stigma will ere long be removed, the government having recently made a much greater sacrifice of interest, in the repeal of the lottery tax, pro bono publico, amounting to half a million a year; compared with which, the tax upon advertisements,

respecting the sale of quack medicines, cannot be an object deserving of consideration—not exceeding, I imagine, three or four thousand pounds a year, at most.—And there is this additional reason for the repeal of the latter, that it does not, like the lottery, relate merely to the morals and property of the people, but to their well being with regard to life and health.

4.—Besides a considerable saving of expence to the funds of public Charities where these classes of patients are admitted, owing to the cures being completed in a third or fourth part of the time commonly required, and of course, qualifying the patients to be discharged, and the beds to be set at liberty, so much sooner than usual; enabling them to return to their families, and to resume their occupations, in a much shorter time than they would otherwise be able to do.

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— The truth is, that ever since I was capable of forming an opinion upon the subject, I have felt a repugnance at the idea of the practice hitherto so prevalent, of applying saturnine and other lotions and ointments, not only to Burns and Scalds, but to cutaneous eruptions of every kind, seeing their constant inefficacy;—and especially at the idea of allowing the continued sway of the extraordinary and improper applications, which have so long, and undeservedly, monopolized that place in the estimation of the faculty and the public, which they never ought to have possessed.—The inference is obvious, and cannot be better expressed than in the words of Mr. Tatham: (SEE p. 21.) “ *However as now,—a discovery unaccompanied with expense or trouble, has been made known generally, IT IS TO BE HOPED THAT EVERY ONE, WITHOUT PREJUDICE OR SCEPTICISM, WILL AVAIL HIMSELF OF IT WHEN OCCASION REQUIRES.*”

From the whole of what has been said, it appears, upon the strongest possible grounds—those of reason,

equity, and justice, that the best interests of all parties,—not excepting those of the profession, will be greatly and essentially promoted and benefited, by the immediate and general introduction of the plan proposed in this ESSAY.

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P. S.—From six or eight recent cases I will select two, with which I intend to conclude.

June 21, 1829. 8 A. M. Mrs. Wadkin scalded her hands and wrists very severely with coffee at a funeral. Flour was strongly recommended by a person present; oil of turpentine by another of the visitors; and vinegar and chalk by a third; which seeming to accord with her own ideas, a mixture of the two last mentioned articles was prepared and applied.

Finding no relief from pain after the lapse of ten or twelve hours I was consulted; but being from home, she was directed by a domestic in my absence, to apply flour plentifully and repeatedly, and to return the day following:—at which time the backs of the hands and the skin between the fingers, were much blistered and very painful, and she had experienced no relief since the accident except that which was afforded by the Flour, which gave her great ease every time it was applied.

Accustomed as I have been of late to sights of a novel description, I was surprised at the rapidity of the cure; especially as a dressing so very improper as vinegar and chalk was applied in the first instance.—In the short space of a fortnight, the cure was completed. The only remedy applied was flour.

CASE 2.—Miss ——'s face and neck were severely scalded with coffee, caused by a dog running violently against her, when she had the coffee-pot in her hand.—In her fright and agitation the coffee was thrown upon her face, and it was feared her eyes would have been, if not lost, at all events greatly injured, and her face dreadfully

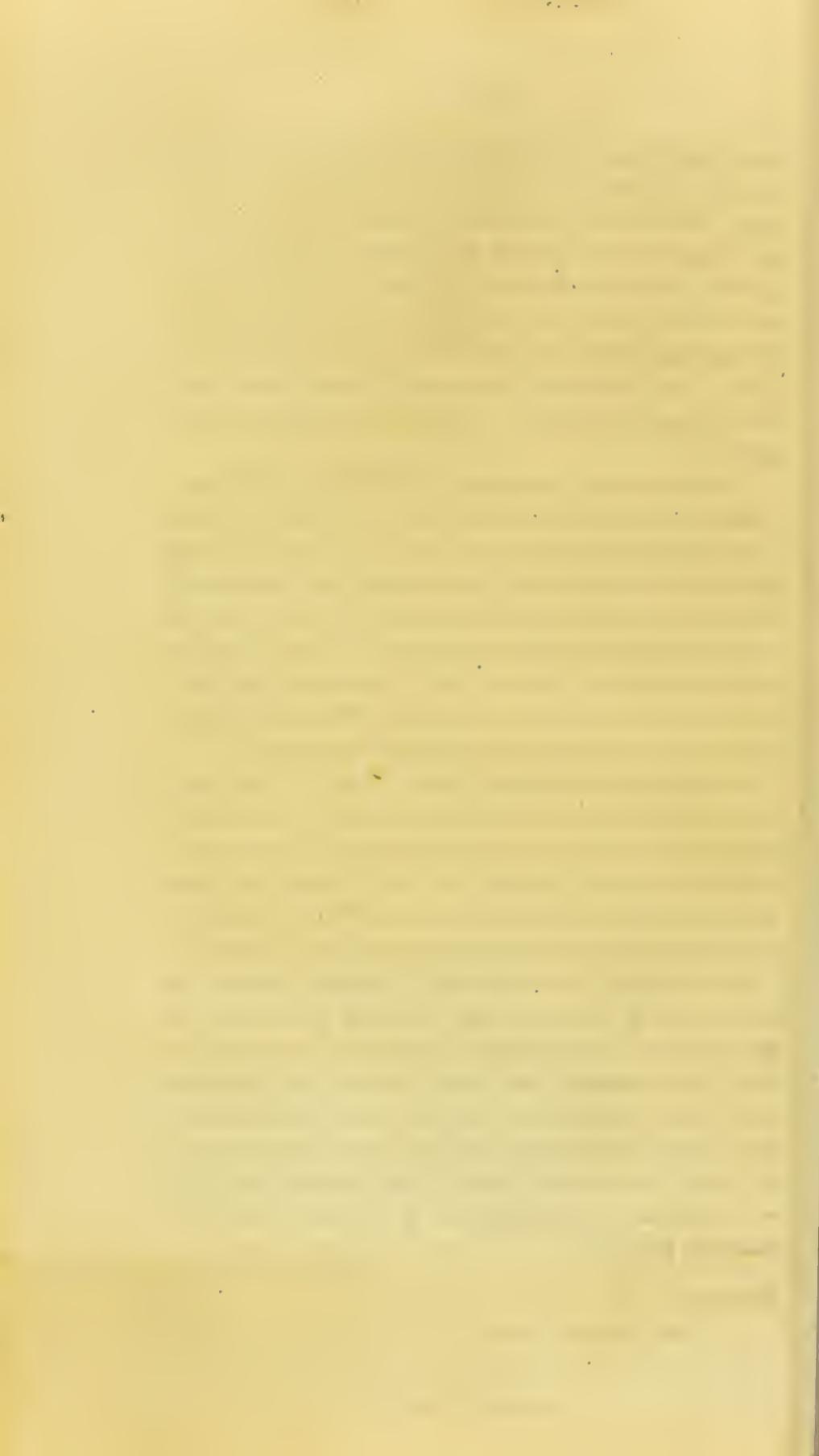
marked and disfigured. The pain was excruciating, and her sufferings so great, as to justify the unfavourable anticipations. Fortunately, however, flour was applied in the first instance, and with the best effects. Her recovery was so speedy and complete, and with so much less pain and suffering than was expected, as greatly surprised Mr. Hollingsworth, (the person who recommended the use of flour) and her other friends, and without leaving any mark whatever, any more than if the accident had not happened.

Of what article, flour excepted, can it be said, that it is always ready when wanted?—This circumstance, which is as fortunate and desirable in itself, as its acquisition was unexpected,—coupled with it constant and regular efficacy, when properly applied, are advantages of such a kind, as must ever set all competition at defiance; and must, sooner or later, render the use of FLOUR, as a remedy in these cases, as universal as the internal use of this incomparable article now is;—*and soon may this period arrive!*

If there be any country where WHEAT is unattainable, it will then be time enough to provide a substitute—When, but not before, I will undertake to name several which are infinitely superior, in every respect, to those which have been so long, and undeservedly, in use;—*to the exclusion of every thing rational, much less scientific.*—*It may, therefore, be considered, I humbly conceive, as being peculiarly fortunate, that a remedy so surprizingly efficacious, and so astonishingly easy of access as never to be absent when wanted,—has been provided for accidents which are as frequent in their occurrence, as they are calamitous and fatal in their consequences.*—That it should have fallen to my lot to discover it, and to give it publicity—*are instances of good fortune, for which I cannot be sufficiently grateful.*

*Manchester,*

*10th August, 1829.*



## ERRATA.

*The following lines should have been inserted after the word "interest," in page 74, the third line from the bottom.*

" and consequently, this motive, co-operating with every other which can influence any liberal minded man, THE NEW SYSTEM will very soon be supported and patronized, not only by the Faculty, but by all classes of people."

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*(The following lines were omitted at the end of page 74)*

" prove that if it be for the good of the community that the new system should be adopted,—(*a point which I take to be fully established*)—it ought not, and I trust will not be rejected, either for the reason alledged, or any other so illiberal, and consequently untenable.

In support of these opinions, I observe in the first place, that this never was, or could be considered as either a profitable or pleasant branch of practice, but quite the reverse, *except to empirics and old women*, some of whom are supposed to have made a tolerable harvest of it.— And who can wonder, if, after having consulted surgeons and others of repute in the profession, (*who we will here call the Regulars*,) not only without experiencing any relief or mitigation of the sufferings they endured, but on the contrary, in many instances, (*from the want of a remedy of real and*"

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Page 83, line 14, for "with it constant," read "with its constant."

